

The Regents of the University of California

**COMMITTEE ON INVESTMENTS
INVESTMENT ADVISORY GROUP**

May 2, 2016

The Committee on Investments met on the above date by teleconference at the following locations: Plaza Room, De Neve Plaza, Los Angeles campus; 1111 Broadway, 21st Floor, Oakland; 3750 University Avenue, Suite 610, Riverside.

Members present: Representing the Committee on Investments: Regents Makarechian, Pérez, Sherman, and Zettel; Ex officio member Varner; Staff Advisor Richmond

Representing the Investment Advisory Group: Members Crane, Rogers, and Samuels, and Consultant Klosterman

In attendance: Secretary and Chief of Staff Shaw, Chief Investment Officer Bachher, Deputy General Counsel Friedlander, and Recording Secretary McCarthy

The meeting convened at 1:35 p.m. with Committee Chair Sherman presiding.

1. **PUBLIC COMMENT**

There were no speakers wishing to address the Committee.

2. **APPROVAL OF MINUTES OF PREVIOUS MEETING**

Upon motion duly made and seconded, the minutes of the meeting of February 26, 2016 were approved, Regents Makarechian, Pérez, Sherman, Varner, and Zettel voting “aye.”¹

3. **UPDATE ON INVESTMENT PERFORMANCE FOR PERIODS ENDING MARCH 31, 2016**

[Background material was provided to the Committee in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Chief Investment Officer (CIO) Bachher provided an update on investment performance for the quarter ending March 31, 2016 and the fiscal year to date. He noted that he had been CIO for two years. As of March 31, 2016, the UC Entity totaled \$97.1 billion, up from \$88.5 billion two years prior. Collaboration across UC with the Office of the CIO had increased, evidenced by 80 meetings between the Office of the CIO team and the broader UC community and the campuses. The Office of the CIO had \$1.2 billion in cash

¹ Roll call vote required by the Bagley-Keene Open Meeting Act [Government Code §11123(b)(1)(D)] for all meetings held by teleconference.

inflows to the General Endowment Pool (GEP) over the past two years, when there had been no significant cash inflows for the prior decade.

During the past two years, Mr. Bachher had devoted time to building up his team at the Office of the CIO. He announced that, following an international search, Steven Sterman would be promoted to Senior Managing Director for Fixed Income, effective this day. Mr. Sterman would be responsible for managing approximately \$30 billion of fixed income assets with a team of eight. The Office of the CIO's fixed income assets are managed in house, with less than one percent of fixed income assets managed externally. Mr. Sterman and Senior Managing Director of Public Equities Scott Chan were collectively responsible for managing the Office of the CIO's public markets team. Mr. Bachher, and Managing Directors Timothy Recker, Gloria Gil, and Edmond Fong manage the private markets team. The Office of the CIO currently had a staff of 59, including 36 investment and risk professionals.

Mr. Bachher reviewed the five areas of opportunity that he set as goals two years prior: develop an asset and risk allocation for all products; manage the products differently based on risk and return objectives; add value through active management; reduce costs aggressively in the current low-return environment; and, most importantly, benefit from UC's competitive advantages of size, scale, and patience as a long-term investor.

Mr. Bachher noted that the UC Retirement Plan (UCRP) was currently invested 56 percent in global equities, and 22.2 percent in fixed income, with the balance in absolute return, private equity, real estate, and real assets. He recalled that the assumed rate of return for UCRP had been reduced from 7.5 percent to 7.25 percent. The asset allocation of the UCRP was last changed three years prior and it would be reviewed at the current meeting in light of the change in the discount rate and the current low-return investment environment. His office, after consultation with Mercer Consultants, Inc., would recommend reducing the risk in the portfolio by changing its asset allocation from 56 percent to 50 percent equities, from 22 percent to 20 percent fixed income, with 30 percent in other investments, including absolute return, private equity, real estate, and real assets.

Mr. Bachher reviewed investment performance for the past nine months, the fiscal year to date. The Working Capital pool, consisting of a combination of \$8.7 billion in the Total Return Investment Pool (TRIP) and \$6.4 billion in the Short Term Investment Pool (STIP), currently contained \$15.1 billion, down from \$16.5 billion two years prior. Over the past nine months TRIP returned a negative 1.3 percent, lower than the market benchmark return of zero percent. STIP earned one percent over the past nine months.

The General Endowment Pool (GEP) lost 4.2 percent over the past nine months, while the benchmark was negative 2.9 percent. Key drivers were the performance of public equity, absolute return, and real assets, which together account for 67 percent of the GEP portfolio. The GEP's ten-year performance ranked 15th among comparator endowments. The Massachusetts Institute of Technology endowment, the top-performing endowment over ten years, earned 10.5 percent, while the UC GEP earned 7.4 percent, reflecting

more than a three percent difference, indicating the need to achieve better performance. When the combined \$15.1 billion assets of the GEP and UC campus foundations are considered, ten-year performance drops to 5.3 percent, ranking 21st among comparator endowments. Mr. Bachher would focus on improving the GEP performance, which would be challenging in the current low-return environment. Over the past two years, the Office of the CIO reduced the number of its external managers from 230 to 69. Passive management in the GEP had been reduced from about 30 percent to 25 percent.

Committee Chair Sherman suggested that future presentations of returns of comparator endowments include their risk, liquidity, and asset allocation. Regent Makarechian pointed out that the GEP's one-year performance ranking had improved to eighth. Mr. Bachher agreed that it would be valuable to have a presentation at a future meeting about the GEP's performance relative to its comparator institutions and reasons for differences in performance. Asset allocation in the GEP has moved in the direction of the Yale endowment model.

The UCRP's return for the past nine months was negative 3.3 percent, while its benchmark returned negative two percent. Key drivers of the underperformance were public equities, absolute return, and real assets. The UCRP portfolio had been simplified by reducing the number of external managers from 230 to 130. Passive management of the UCRP portfolio has been reduced in the past two years from 50 percent to 40 percent.

Mr. Bachher recalled his key strategies of the past two years of managing the various products differently and focusing on active management to increase returns. By the end of the first quarter of 2016, restructuring of the public equity portfolio was completed and restructuring of the absolute return portfolio was well along. The effect of these changes should start to show over the upcoming quarters in deviation of the performance between the GEP and the UCRP.

The UCRP, GEP, and working capital portfolios total \$77.8 billion; the UC Retirement Savings Program holds \$19.8 billion. When Mr. Bachher became CIO two years prior, the Office of the CIO had 230 external managers; it now has 75 external managers with commitments over \$100 million. Only ten new external managers had been added over the past two years. Mr. Bachher emphasized the importance of reducing costs, another of his key goals. The cost of asset management for the UC Entity two years prior was close to \$1 billion annually. Committee Chair Sherman asked what the management costs were in basis points (bps). Mr. Bachher responded that for UCRP, the prior cost of management was 80 bps; for the GEP 150 bps; for TRIP 35 to 40 bps. In 2016, Mr. Bachher estimated annual costs would be reduced to roughly \$750 million. However, he acknowledged that costs included both management and performance fees. The difference in performance fees in the low-return environment contributed the bulk of the \$250 million reduction in costs. The portion of costs attributable to management fees was roughly \$330 million; the balance was performance fees. Mr. Bachher noted the importance of structuring advantageous management agreements, with the goal of reducing management fees and paying for performance that would benefit the University.

Mr. Bachher commented that the biggest change in the Office of the CIO during the past two years has been one of culture. He recognized public equities senior investment analyst Jia Luo for her excellent work in the past quarter on restructuring the public equity portfolio, asset allocation review, and risk management.

Managing Director of Risk Management Richard Bookstaber stated that he had joined the Office of the CIO the prior September with the goal of establishing a strong, integrated risk management system. Risk must be measured before it can be managed; the Office of the CIO must use common measures and a common approach to risk management. Emerging market risks must be able to be evaluated in terms of the risk carried by various holdings in the Office. BlackRock's risk management system was selected as the tool for managing risk in the Office of the CIO. Over the past six months, the Office of the CIO worked to supply the necessary data to configure and test this system, with fixed income being the first area of focus since it is a sizeable, \$30 billion portfolio that is managed internally. The new risk management system for that portfolio came into effect at the end of March, and was currently coming into effect for the \$35 billion equity portfolio, mostly externally managed. He planned that the risk management system would be operative in June for the Office of the CIO's alternative investments. The private equity and real estate portfolios would follow and would not be difficult to integrate into the risk management system. The goal of having the risk management system in effect by September would be met and would allow risk management to be integrated throughout the Office of the CIO rather than an isolated function.

Mr. Chan stated that his first task when he joined the Office of the CIO a year prior was to assess the existing public equity portfolio. At that time, the portfolio had more than 60 managers with more than 6,000 underlying stocks, substantially more than the 3,500 stocks in the portfolio's global benchmark. The public equity portfolio was not outperforming the benchmark, but was paying high active management fees. Mr. Chan reassessed the portfolio's managers and reduced the number of managers to 28. Managers were assessed according to the philosophy of the Office of the CIO that external managers can be expert at selecting stocks, but not at timing the market, regions, or sectors. Managers who demonstrated high understanding of their portfolios of stocks and the drivers of those equities were selected. On the other hand, managers who charged active management fees, but whose portfolios would not differ from their benchmarks were not favored. The move to a smaller number of managers with increased scale offered an opportunity to renegotiate fees.

Regent Makarechian asked if the 28 retained managers' portfolios had outperformed the benchmark. Mr. Chan answered in the affirmative, adding that those let go tended to underperform their benchmarks. Investment Advisory Group consultant Klosterman asked about the overall proportion of active management. Mr. Chan responded that each external manager currently had a very high proportion of active management in comparison with the past, while risk factors had been reduced.

Committee Chair Sherman asked for confirmation that the portfolio has full transparency for all public equity managers so that duplication of holdings could be avoided. Mr. Chan

responded that his office had full transparency, with the exception of one manager, who would likely exit the portfolio in the upcoming three months. Regent Makarechian asked how many individual stock holdings had been eliminated. Mr. Chan answered that the GEP \$3.5 billion public equity portfolio could be run with 12 external managers out of the original 52. The number of individual stock holdings in the GEP was reduced from more than 6,000 to 750 in active management. The portfolio was appropriately diversified across idiosyncratic stock risks. Much earlier duplication was eliminated. Regent Makarechian asked if the distribution of assets to fewer managers enabled negotiation of more favorable fee structures. Mr. Chan responded that scale combined with the program of reducing the number of managers both contributed to an overall 20 percent reduction in management and performance fees in the public equity portfolio, a savings of \$86 million annually.

Regent Makarechian asked how assets were distributed or concentrated among the remaining managers, and what the highest amount held by one manager was. Mr. Chan said the highest amount was \$3.5 billion, an amount which Mr. Bachher added was held by only one manager. Mr. Chan said the average assets were about \$700 million across all product groups. Mr. Bachher noted that there were currently 26 external public equity managers in UCRP, 12 in the GEP, and six in TRIP.

Mr. Klosterman asked if the increase in active share concentration with managers would increase the tracking error in the portfolio. Mr. Chan said the tracking error had been increased, but not as much as one would anticipate, because the portfolio had been optimized for diversification across risk factors relative to the benchmark. He expressed his view that the current public equity portfolio was more diversified across risk factors than the prior portfolio. The portfolio was also diversified to eliminate idiosyncratic risk. Mr. Klosterman asked about the tracking error relative to the total public equity portfolio. Mr. Chan said the GEP tracking error rose from 1.8 percent to 2.1 percent tracking error per year. UCRP's public equity tracking error was unchanged at 1.3 percent per year. TRIP's tracking error was reduced to less than one percent, since it is a more conservative portfolio. Mr. Bachher added that his office would continue to evaluate the credible alternative of being passively invested.

Investment Advisory Group member Samuels asked if in-house costs had increased significantly. Mr. Bachher responded that the Office of the CIO's internal costs had not increased significantly. When he joined the Office of the CIO, there were 49 staff; there were currently 59, including seven staff from a group at the Office of the Chief Financial Officer that had been merged with the Office of the CIO. Performance-based bonuses would be lower because of low investment returns. The same cost-saving measures that had been applied externally were being applied internally. In-house costs total \$34 million annually, compared with \$750 million for external management. Mr. Bachher added that conducting transactions internally, such as buying the building where the Office of the CIO is located, saved enough to fund the office for a year. The private equity portfolio costs are currently roughly equivalent to a one and ten fee structure, meaning one percent of total asset value as a management fee plus an additional ten percent of any profits.

Mr. Chan summarized that the changes described would put the public equity portfolio in a position to generate more active returns. However, that would not be guaranteed, as it had been particularly difficult to generate excess returns through active management in the past six years. He would continue to evaluate how the returns of the passive portfolios compare with active returns. He would also focus on improving risk management in the public equity program, lowering systematic risk, such as being over- or underweight in some countries or sectors, and increasing risk of stock selection that offered a better chance of generating excess returns.

Senior Managing Director of Fixed Income Steven Sterman explained that, with his team of eight investment professionals, he manages, almost all internally, \$30 billion in fixed income assets across all UC Entity products. He cautioned that it is a difficult time to earn profits in fixed income investments. Interest rates are near all-time lows. Should rates rise, there would be a quick negative return. Inflation had been less than two percent for a number of years. Even the fiscal stimulus from the Federal Reserve Bank did not result in its target inflation rate of two percent. Mr. Sterman expressed his view that the low-inflation environment would continue for a long time. Eight years into an economic recovery from the Great Recession of 2008, companies have added leverage to their balance sheets in a slow-growth environment. His office would have to be very selective in taking risk in the credit market and it would not be the right time to seek high returns in credit, since the market held more risk currently than it had two to four years prior. Investment plans relying on fixed income were anticipating lower long-term returns, which had become a concern for many pension funds. Many investors are seeking returns in areas other than fixed income.

Mr. Sterman discussed the role of fixed income in the various investment products. The GEP needs to provide liquidity and the ability to make its payment by holding a core block of liquid, high-quality Treasury-type securities, in times of stress or illiquidity in other markets. Higher-return opportunities, such as tactical use of high-yield, distressed debt, or direct lending, would be explored to help the GEP achieve its return goal of long-term growth above the rate of inflation. The goal in TRIP is to deliver steady income to the University. Lower-yielding assets would be reduced to increase yield with less duration risk. Duration would be reduced, while finding ways to add yield. In UCRP, the fixed income portfolio must provide liquidity, some diversification, and longer duration to match UCRP's long-term liabilities. His office would seek opportunities for return that could contribute to UCRP's 7.25 percent assumed actuarial return. Core fixed income holdings with returns driven by interest rate movements would be reduced and other varieties of fixed income would be added to the portfolio, such as global fixed income, currencies, and a wider range of strategies.

Committee Chair Sherman asked about the duration of fixed income holdings in the various products. Mr. Sterman responded that the UCRP core fixed income duration is about 4.9 years, compared with the Barclays Aggregate Index duration of about 5.25 years. TRIP's duration was reduced to about four years, and would move lower. The GEP's duration was 4.75 years. The GEP's fixed income portfolio would focus more on return than on duration. Committee Chair Sherman commented that UCRP's cash flow

projections indicated that for the next few years contributions would roughly equal benefit payments. Mr. Sterman agreed that the UCRP would not be constrained by cash flow requirements and he could be more proactive in expanding the range of fixed income investments. Regent Makarechian asked what portion of the portfolio was allocated to high-yield holdings and what risk that entailed in certain countries or sectors, such as energy. Mr. Sterman said the portfolio contained oil and gas bonds. High-yield holdings, across all products, were approximately \$2 billion, of which \$1 billion is managed internally. About eight percent of the high-yield fixed income was broad energy holdings including production, exploration, transportation, pipelines, and refineries. The dedicated \$1.5 billion emerging market exposure was in sovereign government bonds, U.S. dollar-denominated. Regent Makarechian asked if the portfolio held any municipal bonds. Mr. Sterman said the portfolio contained a few highly rated California, New York, and New Jersey municipal bonds, but was currently underweight in municipal bond holdings.

Regent Zettel commented that seeking higher yields would involve assets with lower ratings and higher risk. She asked about the greater risk to the portfolio. Mr. Sterman responded that the portfolio's allocation to high-yield holdings had not been materially increased, but had inched up marginally. Individual credit holdings are evaluated for risk. To enhance yield, his office searched for B- and BB-rated short-maturity bonds with companies with clear near-term liquidity and ability to pay, taking more credit risk but less maturity risk. Regent Zettel asked if some public comment advocating for divestment from certain assets affected investment selections. Mr. Sterman said his office considers the environmental, social, and governance (ESG) factors in all its investment decisions. Regent Pérez commented that ESG factors were difficult to track and predict as investment risks, and balance with the Committee's primary charge of long-term investment performance.

Mr. Klosterman asked for clarification of a reference in the materials to a 3.9 percent allocation within emerging market debt to United States bonds. Mr. Sterman explained that referred to U.S. high-yield bonds a few months prior that his office felt were more attractive at that time than emerging market debt. He did not consider this to be a long-term strategy. If this strategy continued to be attractive, it would be moved to the high-yield allocation. Mr. Klosterman said that would be preferable.

Managing Director of Absolute Return Investments Edmond Fong commented that the initial intention of the absolute return program was to generate a positive rate of return irrespective of market environment, with low correlation to the stock and bond portfolios. Neither of those goals had been met in the portfolio recently. The Office of the CIO had a new focus on individual products and collaboration within the office. As of June 30, 2015, the absolute return program had 32 active managers holding pooled GEP and UCRP capital; the number of managers had been reduced to 16 by April 1, 2016. The portfolio had five-percent volatility on an annualized basis, which may have been appropriate for the UCRP but not for the GEP.

The current goal for the portfolio is to ensure that the exposures are appropriate to meet the objectives of the GEP, UCRP, and TRIP. In the past ten months since he assumed his current position, Mr. Fong and the Office of the CIO's review of the 32 managers from a risk management perspective revealed that a significant amount of the portfolio's risk budget was in return-enhancement strategies that were chiefly in the long/short equity market. In order for the Office of the CIO to manage equity risk holistically, nine line items were transferred from the absolute return portfolio to the public equity portfolio. A few more managers were eliminated and a few were added. While the number of managers had been reduced by about half, the portfolio's assets under management declined by only 20 percent, indicating that the existing managers would generally have more assets to manage. Mr. Fong said it was important that the Office of the CIO was aligned with its partners in areas such as transparency, governance, and collaboration in knowledge transfer, market intelligence, and market access. He anticipated creating three distinct absolute return portfolios for the GEP, UCRP, and TRIP. He predicted that costs would be reduced by roughly 20 percent. He would continue to discuss renegotiating fees and realigning incentives with absolute return external managers. Mr. Bachher said the Office of the CIO would continue to invest in hedge funds, but he acknowledged that the two and 20 fee structure, meaning a fee of two percent of assets under management plus 20 percent of profits, had proved to be not profitable relative to passive market indexing. His office would continue to monitor closely its smaller group of external managers to ensure they had unique strategies that were worth the fees. He anticipated having about five or six hedge funds in the GEP. He emphasized that his office would move thoughtfully, but would not continue to pay external managers high fees for no value added. Committee Chair Sherman advocated negotiating hurdle rates. Mr. Bachher agreed that a hurdle rate appropriate for the unique strategy being offered would be desirable.

4. **UC RETIREMENT PLAN ASSET ALLOCATION REVIEW**

[Background material was provided to the Committee in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Chief Investment Officer Bachher advised that the UC Retirement Plan's (UCRP) current asset allocation was 56 percent stocks and 22 percent bonds. However, if bonds would not offer the returns they had in the past and the global stock market gained six to eight percent, this allocation would not enable UCRP to earn its actuarial assumed rate of return of 7.25 percent.

Managing Director of Asset Allocation and Investment Strategy Samuel Kunz emphasized the importance of the UCRP asset allocation, which the Regents are responsible for establishing. The UCRP returns affect the retirement funds of hundreds of thousands of UC employees and retirees. Changes in the world economy and the composition of UCRP's liabilities require revisiting the portfolio's strategic asset allocations.

Mr. Kunz reported that his office had collaborated with Mercer Investment Consulting, Inc. (Mercer) and Segal Consulting (Segal) in developing the recommended asset allocation. The recommended changes would be modest: a reduced allocation to public equity; an increased allocation to private equity, enabling the Office of the CIO to capture more of the illiquidity premium; a slightly reduced allocation to fixed income; and a slightly increased allocation to alternative investments offering relatively higher yields. This strategy would be a continuation of the direction of past changes. In 2005, the target allocation to public equity was about 70 percent; in 2015 that allocation had been reduced to 55 percent.

Mr. Kunz described the process used to develop the recommended allocation. Best practices of peer institutions were reviewed. Mercer provided capital market expectations, which were compared with market expectations of the Office of the CIO staff. The current portfolio was examined to find areas for improvement. The amount of liquidity in the portfolio was found to be relatively high compared to the University's needs and liabilities, and compared with UC's peer institutions. It was determined that the current asset allocation would not generate the then 7.5 percent assumed actuarial rate of return in the current low-return environment. It was determined that, in order to obtain a 7.5 percent rate of return, the portfolio would need a 20 percent allocation to private equity, which was determined to be unrealistic. The prior year, the assumed actuarial rate of return had been reduced to 7.25 percent.

The Office of the CIO set the following constraints when determining the recommended asset allocation. First, a high level of liquidity, 65 percent, must be maintained, since the main goal of the portfolio is to pay UCRP beneficiaries. Second, a minimum 20 percent allocation to fixed income would diversify returns and provide the ability to make payments should the market come under stress. Third, the absolute return allocation would be capped at 15 percent. Within these constraints, Mercer created a series of possible portfolios with different risk, return, and liquidity characteristics. A possible portfolio projected to return 7.25 percent had 15 percent allocations to alternative investments, absolute return, and private equity. However, the Office of the CIO considered that allocation to be too aggressive, because it viewed private equity as expensive in the current market and because of the time necessary to deploy capital in private equity. A less aggressive version of the recommended portfolio would allocate 50 percent to public equities, 20 percent to fixed income, and 30 percent to other investments.

In response to a question from Investment Advisory Group consultant Klosterman, Mr. Bachher stated that the inflation assumption was 2.5 percent. Regent Makarechian asked about the related Segal report. Mr. Bachher said the Segal UCRP Highlights of Actuarial Experience Study for the period July 1, 2010 through June 30, 2014 was presented to the Regents at their September 2015 meeting when the assumed rate of return was changed from 7.5 percent to 7.25 percent. Mr. Bachher advised that the chief question was whether the inflation assumptions were realistic. For every quarter of one percent reduction in the assumed rate of return, UCRP's liabilities increase by \$2 billion. He considered even the 7.25 percent assumed rate of return to be high. Regent

Makarechian commented that the assumed rate of return was also connected to UCRP's funding ratio. He asked about the current funding ratio. Investment Officer Susan Ardeshir stated that as of March 31 the UCRP funding ratio was 79 to 80 percent on a market value basis and 72 percent on an actuarial basis. Mr. Bachher summarized the Mercer original recommended asset allocation as roughly 60 percent stocks and bonds, and 40 percent other asset classes, including real estate and absolute return, which he considered more like an endowment portfolio than a pension portfolio. He and his team considered a 40 percent allocation to other investments to be too big a change from the current 20 percent allocation. In addition, the upper limit of alternate investments among most of UC's peer institutions was 30 percent.

Jay Love of Mercer indicated that Segal and Mercer had consulted closely during this process. Segal provided input regarding UCRP's liabilities and cash flow and then Mercer used its economic model and market assumptions to develop recommended asset allocations. He expressed Mercer's opinion that the 7.5 percent assumed rate of return would not be achievable, and the 7.25 percent rate was pushing the boundaries. Mr. Bachher cautioned that a change from 20 to 40 percent in private assets would increase costs. He expressed his view that a 30 percent allocation to other investments was achievable within a reasonable time period.

Investment Advisory Group member Samuels commented on the relationship among changes to the UCRP, its resulting liability projections, and investment strategy. He asked if underlying UCRP assumptions had been changed as a result of changes to the pension plan for new hires after July 1, 2016. Mr. Bachher said the process of re-examining UCRP's liabilities was beginning in light of the option for the defined contribution plan. He said a more sophisticated approach to asset allocation was to map liabilities first, then map assets to match those liabilities. He would like the process of determining asset allocation to move in that direction and agreed that UCRP's liabilities should be reassessed in light of changes to the pension plan.

Regent Pérez commented that, even though he had not been in favor of the changes to the pension plan, some of its terms would benefit UCRP, such as the cap on pensionable income at the Public Employees' Pension Reform Act of 2013 (PEPRA) limit of \$176,000 and adding the possibility to opt out of the defined benefit plan. Any subset of UC employees who choose to opt out of the defined benefit plan, particularly those with salaries above the PEPRA cap, would significantly benefit the defined benefit plan because the University would contribute eight percent of salary for every dollar earned, not just to the PEPRA cap. He asked if the combination of these two factors might indicate that the effect of the changes to the pension plan on the funding of UCRP would not be negative. Mr. Bachher responded in the affirmative.

Mr. Klosterman asked about longevity risk, commenting that traditional actuarial tables indicate that more educated and affluent pension participants have longer life expectancies. He asked how detailed UCRP's actuarial assumptions are. Mr. Love responded that Segal was responsible for actuarial assumptions. Mr. Bachher agreed and said he could provide this information.

Mr. Klosterman asked what discount rate was used to determine the UCRP funding ratio cited earlier. Ms. Ardeshir responded that a 7.25 percent assumed rate of return was used.

5. **AMENDMENT OF INVESTMENT POLICY STATEMENT FOR UNIVERSITY OF CALIFORNIA RETIREMENT PLAN**

The Chief Investment Officer, in consultation with Mercer Investment Consulting, Inc., recommended that the Committee on Investments recommend that Regents Policy 6101: Investment Policy Statement for University of California Retirement Plan be amended as shown in Attachment 1.

[Background material was provided to the Committee in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

(For discussion see item 6, below.)

Upon motion duly made and seconded, the Committee approved the Chief Investment Officer's recommendation and voted to present it to the Board.

6. **AMENDMENT OF INVESTMENT POLICY STATEMENT FOR UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL**

The Chief Investment Officer, in consultation with Mercer Investment Consulting, Inc., recommended that the Committee on Investments recommend that Regents Policy 6102: Investment Policy Statement for the General Endowment Pool be amended as shown in Attachment 2.

[Background material was provided to the Committee in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Chief Investment Officer (CIO) Bachher noted that the recommended UC Retirement Plan (UCRP) asset allocation discussed in item 4. would be reflected in the proposed Investment Policy Statement for the UCRP.

Investment Officer Susan Ardeshir summarized proposed changes to the Investment Policy Statement. The Office of the CIO had worked with Mercer Investment Consulting, Inc. for the past six months to update the Investment Policy Statements. Since the various products managed by the Office of the CIO would be treated more independently of one another, the appendices which had been common to the UCRP and the General Endowment Pool (GEP) would be moved to both the UCRP and GEP Investment Policy Statements. UCRP Investment Policy Statement Appendix 1 would be updated to reflect the proposed new asset allocation. The GEP Investment Policy Statement Appendix 1 would be updated to adjust asset class weightings in light of the removal of the cross asset class and opportunistic equity asset classes. Former Section 5 of the UCRP and GEP Investment Policies was moved to Appendix 7, which sets general asset class and manager guidelines. Ms. Ardeshir discussed proposed changes to Appendix 7, Asset

Class and Manager Investment Guidelines, sections 7(A) U.S. Equity Guidelines, 7(F) Core Fixed Income Guidelines, and 7(O) Absolute Return Strategies Guidelines.

Senior Managing Director of Public Equity Investments Scott Chan discussed the main changes proposed in the investment policies related to public equities. Rather than have the public equity benchmark weighted differently for UCRP and GEP, the benchmark would be simplified to be the MSCI All Country World Index Net – Investable Market Index – Tobacco Free. The current Investment Policy states that the portfolio beta would not be significantly different from 1.0. However, inheriting the long/short portfolio in the GEP resulted in a current beta of 0.85. Because markets are dynamic and hedge funds would change their positions over time, the Office of the CIO recommended allowing a beta range of 0.8 to 1.1.

Mr. Chan added that the rationalization of managers would mean that the Office of the CIO could hold a larger percentage of any given stock or of the holdings of any given manager. In response to a question from Regent Makarechian, Mr. Chan explained the rationale for the recommendation that the aggregate holdings of any one security may not exceed 4.9 percent of the security's outstanding shares be revised to 7.5 percent. Some activist managers' strategies involve taking a larger position in a particular stock in order to influence positive management changes that would add value. Regent Makarechian asked if proposed changes to proxy voting were related to this issue. Mr. Bachher said the proxy voting changes were related to being more active and aware of how UC's proxies were being voted. Committee Chair Sherman asked Mr. Bachher if he anticipated the Office of the CIO advocating any governance measures through its proxy. Mr. Bachher answered in the negative.

Senior Managing Director for Fixed Income Steven Sterman discussed proposed changes to Appendix 7(F), the Core Fixed Income Guidelines. It was recommended that the average weighted effective duration of portfolio security holdings variance from the benchmark index be revised from plus or minus 20 percent to plus or minus 50 percent. This change would provide the Office of the CIO increased flexibility to respond to market opportunities. Another recommended change would allow no more than 15 percent of the Program's investments, measured by market value, to be below investment grade, revised from the current limit of ten percent. Mr. Sterman explained that this revision would allow investment in certain opportunities with attractive yields and no default risk. In Appendix 7(I) High Yield Debt Investment Guidelines, the proposed change from 30 percent to 50 percent of the program's market value that can be invested in private placements reflected changes in the marketplace and the fact that more high-yield issues were Securities Act of 1933 Rule 144(a) securities without registration rights and thus considered illiquid, private holdings by definition. Appendix 7(J) Emerging Market Debt Investment Guidelines would be amended to allow no more than 50 percent (formerly 20 percent) of the program's investments, measured by market value, to be rated below investment grade, to reflect movement in the benchmark as the issuances of some large countries, such as Brazil, are downgraded.

Regent Makarechian asked about Rule 144(a) securities. Mr. Sterman said these securities had potentially less disclosure, and different disclosure requirements from securities fully registered by the Securities and Exchange Commission. The Office of the CIO buys securities only when its research team judges the disclosure to be adequate. Mr. Sterman said the high-yield market includes 144(a) securities of private equity sponsor-owned companies. The Office of the CIO applies its normal rigorous due diligence on these issues.

Upon motion duly made and seconded, the Committee approved the CIO's recommendation and voted to present it to the Board.

The meeting adjourned at 3:25 p.m.

Attest:

Secretary and Chief of Staff

Additions shown by underscoring; deletions shown by strikethrough.

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN

INVESTMENT POLICY STATEMENT



Approved ~~March 14, 2013~~ May 12, 2016

Replaces version approved ~~November 15, 2012~~ March 14, 2013

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

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PLEASE NOTE:

~~* These Appendices and Guidelines are in separate documents and are incorporated by reference. Appendices (4-8) to Investment Policy Statements of UCRP and GEP~~

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Introduction and Purpose

This Investment Policy Statement (“Policy” or IPS”) provides the framework for the management of the investments of the University of California Retirement Plan (“UCRP” or the “Plan”). The purpose of a policy statement is to document the investment management process by

- Identifying the key roles and responsibilities relating to the ongoing management of the Plan’s assets;
 - Recognize and ameliorate the agency issues among the parties responsible for various aspects of investment management;
- Setting forth an investment structure for the Plan’s assets;
 - This structure includes various asset classes and acceptable ranges that, in aggregate, are expected to produce a sufficient investment return over the long term while prudently managing risk;
 - This strategy should provide guidance in all market environments, and should be based on a clear understanding of worst case outcomes;
- Establishing formalized criteria to measure, monitor, and evaluate Plan performance results on a regular basis; and
- Encouraging effective communication among all fiduciaries, including external parties engaged to execute investment strategies.

The document is divided into ~~five~~ four sections. There are also a number of Appendices, which are integral parts of this document

1. Investment Goals, Key Responsibilities, and Philosophy

The investment **goals** state the mission of the Plan and its investment program.

- a. The mission of the Plan is to provide retirement benefits, as described in the Plan document, to its participants and their beneficiaries.
- b. The overall investment goal of the Plan is to maximize the probability of meeting the Plan’s liabilities subject to The Regents’ funding policy. Other goals include:
 - To maintain the ability to pay all benefits and obligations when due
 - To maintain flexibility in determining the future level of contributions
 - To maximize return within reasonable and prudent levels of risk
 - To preserve the real (i.e. inflation adjusted) purchasing power of assets

Key **responsibilities** in the oversight and management of the Plan are as follows:

- c. Under Section 11.02 of the Plan, as adopted by the Board of Regents of the University of California (“The Regents”), The Regents is the designated trustee of the assets of the Plan, which are held in the University of California Retirement Fund (“Retirement Fund”). As trustee, The Regents has full responsibility for investment of the Retirement Fund’s assets.
- d. Under the authority granted in University Bylaw Sections 10.1.b and 12.5.a, The Regents has appointed a standing Committee on Investments (“Committee”), which is charged

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with oversight responsibility for the management of investments on behalf of The Regents, which includes the establishment of investment policies for the Plan and oversight of the management of the Plan's assets.

- e. Under the Bylaw Section 12.5.c, the Committee is directed to establish a system of custodianship for all securities.
- f. Under University Bylaw Section 21.4, The Regents has delegated to the Chief Investment Officer general responsibility for all investment matters, including the implementation of investment policies established by the Committee for the Retirement Fund. References to the "Chief Investment Officer" below shall be understood, depending on the context, to mean the "Office of the Chief Investment Officer."
- g. Under Section 4.01 of the Plan, The Regents will authorize periodic contributions to the Retirement Fund as necessary, to "maintain the Plan on an actuarially sound basis." The Regents policy for funding the Plan is found in Appendix 3.

The **philosophy** for the management of the Retirement Fund assets is as follows.

- h. The investment philosophy of the Committee is to create a management process with sufficient flexibility to capture investment opportunities as they may occur, yet maintain reasonable parameters to ensure prudence and care in the execution of the investment program.
- i. The Committee seeks a return on investment consistent with levels of investment risk that are prudent and reasonable given medium- to long-term capital market conditions and the investment objectives of the Plan. (See part 4 below.) While the Committee recognizes the importance of the preservation of capital, it also recognizes that to achieve the Plan's investment objectives requires prudent risk-taking, and that risk is the prerequisite for generating excess investment returns. Therefore the Committee's policy regarding investment risk, consistent with modern portfolio theory, is that risk cannot be eliminated but should be managed, and that fiduciaries have the obligation to utilize risk efficiently. Risk exposures should be identified, measured, monitored and tied to responsible parties; and risk should be taken consistent with expectations for return. Further articulation of the Committee's risk policy, including appropriate budgets and ranges for various types of risk are found in Appendix 2.

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

- ~~j. *Capital market risk* is the risk that the investment returns (in excess of the risk free rate) associated with the Committee's asset allocation policy are not sufficient to provide the required actuarial return. Responsibility for determining the overall level of capital market risk lies with the Committee.~~
- ~~k. *Investment style risk* is associated with an active management investment program. It is the performance differential between an asset class's market target and the aggregate of the managers' benchmarks within the asset class 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.~~
- ~~l. *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, both at policy~~

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~~allocation. 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).~~

- ~~m. *Tactical/strategic risk* is the performance differential between (1) policy allocations for the Retirement Fund's asset categories and its investment managers and (2) the actual allocations. This risk is the responsibility of the Chief Investment Officer.~~
- ~~n. *Total active risk* refers to the volatility of the difference between the return of the Retirement Fund policy benchmark (see Appendix 1) and the actual return. It incorporates the aggregate of the risks in (k), (l) and (m) above, and is thus the responsibility of the Chief Investment Officer.~~
- ~~o. *Total investment risk* refers to the volatility of the return of the total Retirement Fund assets. It incorporates all elements of investment risk as enumerated above, and is thus the joint responsibility of the Committee and the Chief Investment Officer.~~
- ~~p. *Surplus risk* refers to the volatility of the change in the dollar value of Retirement Fund assets versus the change in the dollar value of the Plan's liabilities. The latter represents the ultimate investment objective of the Plan. Because the asset allocation articulates the Committee's risk tolerance, and because The Regents determine the Plan's benefits and liabilities, this risk is the joint responsibility of The Regents and the Committee.~~
- ~~q. *Peer risk* refers to the difference in Retirement Fund performance relative to peer institutions. The Committee acknowledges that similar institutions may have different liabilities and different levels of investment risk. Comparisons of performance with other institutions are meaningful *only* after adjusting for differences in investment policy and risk among peers. This risk is the responsibility of the Committee.~~

2. Investment Policies

The policies of the investment program establish the investment strategy and guide its implementation.

- a. The investment policies of the Retirement Fund shall be based on a financial plan that will consider:
 - i. The financial condition of the Plan, i.e., the relationship between the current and projected assets of the Plan and the projected benefit payments, and the current Funding Policy (see Appendix 3)
 - ii. Future growth of active and retired participants; expected service costs and benefit payments; and inflation and the rate of salary increases (together these are the principal factors determining liability growth)
 - iii. The expected long term capital market outlook, including expected volatility of and correlation among various asset classes
 - iv. The range of possible investment outcomes associated with different policies
 - v. The Committee's risk tolerance, that is, the trade-off between the desire to achieve high returns (and the associated high volatility) and the desire to avoid unacceptable outcomes (and the associated necessity for reduced volatilityreturns).

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- b. The Committee will consider alternative investment policies and will measure their potential impact on the financial condition of the Plan and assess their suitability in meeting the objectives of the Plan.
- c. The Committee's financial plan will result in a risk budget, that is, an expected amount of volatility associated with a given expected level of investment returns offered by the capital markets including the expected active return.
- d. Based on the risk budget, the Committee, with input from the Chief Investment Officer and other consultants, will approve a specific allocation of the investments (the asset allocation policy) among the various asset classes considered prudent given the Plan's liability structure, and considering multiple measures of investment and surplus risk. The asset allocation policy shall be expressed in terms of a normal percentage allocation, and ranges for each asset class. These normal weights and ranges are found in [Appendix 1](#). Criteria for including an asset class in the strategic allocation are also in [Appendix 1](#).
- e. The asset allocation policy shall be sufficiently diversified to enable the appropriate fiduciary to manage risk without imprudently sacrificing return. The Chief Investment Officer is delegated the responsibility of managing total and active risk within the ranges set by the Committee. (See [Appendices 1 and 2](#)). Within the limits of prudent diversification and established risk budgets, capital market and active risk exposures are fungible, and the Chief Investment Officer may allocate risk exposures within and between asset classes in order to optimize return. When necessary, the Chief Investment Officer may use appropriate risk management strategies to protect portfolio value.
- f. The Committee will approve performance benchmarks for each asset class, based on a pre-approved set of criteria, which are found in [Appendix 1](#), and will approve overall investment guidelines for each asset class, which are found in [Appendix 7](#).
- g. The Plan's assets shall at all times avoid the use of economic leverage (subject to exceptions below). Economic leverage, in the context of portfolio management, is defined as a net dollar exposure to assets in excess of the dollar amount of invested capital, as measured by current market value. The term "net dollar exposure" is defined in the Derivatives Policy, [Appendix 4](#). A very small, inadvertent, or temporary violation of this restriction that may occur in the normal course of portfolio management shall *not* be construed as leverage. Notwithstanding the general prohibition against leverage, leverage may be used in Private Equity, Real Estate, Real Assets, and Absolute Return strategies, per the limits and guidelines set forth in [Appendix 7](#) and in the conduct of the Securities Lending Program (see section 21. below). All leverage shall be non-recourse to the Regents, as trustee of UCRP, with respect to UCRP investments.
- h. The Chief Investment Officer will implement the asset allocation policy as approved by the Committee. The Chief Investment Officer will select investment professionals ("managers") with demonstrated experience and expertise who will be responsible for managing specific portfolios consistent with the Guidelines in [Appendices 6 and 7](#). Each investment manager will function under a formal contract that delineates its responsibilities, investment style and process, performance expectations, administrative requirements, and compensation. Where appropriate, each manager's contract will include a benchmark and range of probable outcomes relative to that benchmark. The Chief Investment Officer shall establish and implement procedures for the selection, monitoring, evaluation, and termination of investment managers, which are found in [Appendix 6](#).

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- i. The Chief Investment Officer will allocate funds across managers to develop an efficient investment structure, within the constraints of the prudence requirement, for each asset class, and will monitor whether the aggregate characteristics of all portfolios in an asset class comply with the investment guidelines for that class. The Chief Investment Officer will determine a policy allocation for each manager to be used in the evaluation of the active management program.
- j. The Chief Investment Officer shall establish and implement procedures to provide efficient management of liquidity (including timely payment of benefits) for the Plan.
- k. The Chief Investment Officer shall be responsible for administering the investments of the Retirement Fund at the lowest possible cost, being careful to avoid sacrificing quality. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs and other administrative costs chargeable to the Retirement Fund. The Chief Investment Officer may establish directed brokerage arrangements with the custodian for the Retirement Fund or other qualified third parties in order to reduce overall commissions cost for the Retirement Fund.
- l. The Chief Investment Officer may participate in securities lending programs, as a means to augment income, with the custodian or other qualified third parties. Cash collateral received from borrowers will be invested by the Chief Investment Officer or the lending agent, in a short-term investment pool, in accordance with guidelines established by the Chief Investment Officer.
- m. The Committee considers the active voting of proxies an integral part of the investment process. Proxy voting will occur in accordance with the Proxy Voting Policy found in Appendix 5.
- n. The investment program shall comply with existing and future applicable state and federal laws and regulations and the prudence requirement.
- o. All transactions undertaken on behalf of the Retirement Fund will be undertaken solely in the interests of Plan participants and their beneficiaries.

3. Fiduciary Oversight Procedures

The procedures for the management of the Retirement Fund's assets outline the specific responsibilities of the Committee and other fiduciaries.

- a. The Committee, in developing the investment policy for the Retirement Fund assets, shall act with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.
- b. The Committee will exercise its fiduciary responsibilities in regard to the investment program in accordance with the provisions of the Plan document and University Bylaws.
- c. The Committee shall review the asset allocation policy, asset class guidelines, and current capital market assumptions at least annually to ensure that the current asset mix can reasonably be expected to achieve the long-term goals of the Plan.
- d. The Committee will review the Plan's updated actuarial valuation and financial projection annually, including the recommended Funding Policy for each year.

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- e. The Committee may appoint investment consultants to review investment performance of the Retirement Fund in whole or with respect to specific asset classes, to assist in the development of the Retirement Fund's investment policies and asset allocation, to monitor and report on investment risks, and to provide independent assessment of investments proposed by the Chief Investment Officer.
- ~~f. The Committee has appointed a standing Investment Advisory Committee ("IAC") of selected Regents, investment professionals, faculty, and UC Foundation members to provide input to the Committee on decisions and assist in oversight of the Chief Investment Officer. The Chair of the Committee shall also be the Chair of the IAC.~~
- f. The Investment Advisory Group shall function in an oversight and evaluative role providing advice to The Regents with respect to establishment of investment policies and investment performance, including, but not limited to, investment strategies, policies and procedures; investment performance; investment personnel of the Chief Investment Officer; external investment managers; and the budget of the Chief Investment Officer. The Committee on Investments has authority under Regents Bylaw 12.5 for management of investments of the Corporation, and the Advisory Group shall have no management or action authority. In addition, the Investment Advisory Group shall have no authority for selection of specific investments, including the selection of investment managers or individual investments.
- g. The Committee shall review the investments of the Retirement Fund no less than quarterly to assess whether policy guidelines continue to be appropriate and are met. The Committee shall monitor investment risk, as well as monitor investment returns on an absolute and benchmark relative basis.
- h. The Chief Investment Officer shall prepare quarterly and annual reports for the Committee and The Regents on the investment program, including
 - i. The achievement of overall performance objectives
 - ii. The type and amount of risk taken to achieve those objectives
 - iii. Attribution of returns to various investment decisions and risks
 - iv. Adherence to budgets set for total and active risk
 - v. Compliance with policy guidelines, particularly asset allocation policy, and
 - vi. The costs of managing the Retirement Fund's assets.
- i. Investment performance results shall be calculated and verified at least monthly by an external, independent performance consultant.
- j. The Chief Investment Officer, in conjunction with the various investment consultants, will monitor the investment managers for compliance with their investment guidelines, achievement of specific objectives, and individual risk exposures.
- k. The Chief Investment Officer shall monitor the conduct of the custodian of the Retirement Fund.
- l. The Chief Investment Officer shall adopt the CFA Institute Code of Ethics and Standards of Professional Conduct for all employees of the Chief Investment Officer and relevant consultants and managers. These are found at <http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2014.n6.1> <http://www.cfainstitute.org/cfacentre/pdf/English2006CodeandStandards.pdf> and incorporated by reference. The Chief Investment Officer shall develop and enforce other ethics guidelines for the Office of the Chief Investment Officer as needed, consistent with other University policies and guidelines.

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- m. The Committee will review this Policy from time to time to determine if modifications are necessary or desirable.

4. Performance Objectives

Performance objectives shall be established for the total Retirement Fund, asset class composites and individual manager portfolios. These objectives will be incorporated in the quarterly reviews of the Retirement Fund's performance.

The investment strategy articulated in the asset allocation policy found in Appendix 1 has been developed in the context of long-term capital market expectations, as well as multi-year projections of actuarial liabilities. Accordingly, the investment objectives and strategies emphasize a long-term outlook, and interim performance fluctuations will be viewed with the corresponding perspective. The Committee acknowledges that over short time periods (i.e. one quarter, one year, and even three to five year time periods), returns will vary from performance objectives and the investment policy thus serves as a buffer against ill-considered action.

There are three principal factors that affect a pension fund's financial status: 1) contributions, 2) benefit payments and 3) investment performance. Only the last factor is dependent upon the investment policy and guidelines contained herein. However, the Committee's level of risk tolerance will take into account all three factors. At certain levels of funded status, it could be impossible for the investments to achieve the necessary performance to meet the promised liabilities. The result is that either benefits have to be reduced, contributions increased or risk tolerance changed.

Rates of return will be calculated based on a time-weighted rate of return formula as recommended by the CFA Institute. Returns will be calculated by the ~~performance consultant~~ custodian and will be reported net of all fees and costs.

The performance of the overall Retirement Fund will be measured relative to:

- Actuarial rate of interest
 - Funded status
 - Inflation
 - Policy benchmarks
- a. The Retirement Fund total return objective should be at least equal to the Plan's actuarial rate of return on a consistent basis over time.
- This objective is to achieve a rate of return equal to or greater than the Plan's actuarial interest rate. If the Plan's assets grow at a rate equal to or greater than the actuarial rate, the Plan's funding condition will be maintained. Earning a lower return will generally result in increased levels of contributions. (Maintaining the Plan's funded status is conditioned, in part, on the successful implementation of a prudent funding policy.)
- b. Funded status should be in excess of 100%.
- This objective is to maintain a status of full funding, meaning that the Plan's assets are at least as great as the Plan's liabilities, both as measured by actuarially

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acceptable methodologies. Full funding provides a higher level of assurance that all promised benefits can be paid from existing assets and expected investment returns. (The ability to maintain full funding is conditioned, in part, on the successful implementation of a prudent funding policy.)

- c. Total Retirement Fund return should exceed the Consumer Price Index on a consistent basis over time (e.g. rolling 3 and 5 years).
 - This objective is to achieve a positive return above inflation. The Plan's liabilities are sensitive to inflation, as benefits are partially determined by future salaries. Failing to achieve the targeted real (i.e., purchasing power) return may also increase future contributions.
- d. Total Retirement Fund return should match or exceed the total Retirement Fund weighted policy benchmark return, net of all fees and expenses on a consistent basis over the long term time. See Appendix 1 for the composition and calculation of the Retirement Fund policy weighted benchmark.
 - This objective is to match or exceed a passively managed fund with a similar asset mix, net of all fees and expenses. The value added above the policy benchmark measures the effectiveness of the Chief Investment Officer's implementation and management decisions.

Additional metrics with respect to risk are found in the Risk Policy Appendix 2.

5. Asset Class and Manager Guidelines

The general guidelines that apply to all investment managers are:

- a. ~~Subject to constraints and restrictions imposed by the manager guidelines, all decisions regarding sector and security selection, portfolio construction, and timing of purchases and sales are delegated to the investment manager.~~
- b. ~~The purchase of securities issued by tobacco companies is prohibited in separately managed accounts. The Regents have defined a tobacco company as "a company which derives its revenues from the manufacture and distribution of tobacco products or, if a diversified company, that no other business line contributes more revenues or earnings than tobacco products." The Chief Investment Officer will determine what constitutes a tobacco company based on standard industry classification of the major index providers (e.g., Russell, MSCI) and communicate this list to investment managers annually and whenever changes occur. The Committee recognizes that the establishment of social investing restrictions limits investment opportunities and should be accompanied by adjusting performance evaluation standards appropriately.~~
- c. ~~The direct purchase of property owned or a security issued by the University, its subsidiaries and affiliates, is prohibited~~
- d. ~~The purchase of non-negotiable securities is prohibited in the equity and fixed income asset classes.~~
- e. ~~The use of derivative securities or contracts to create economic leverage in the portfolio is prohibited. Acceptable and prohibited uses of derivatives are found in the derivatives policy in Appendix 4.~~

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- ~~f. Transactions that involve a broker acting as a "principal," where such broker or an affiliate is also the investment manager, who is making the transaction, are prohibited.~~
- ~~g. Transactions shall be executed at the lowest possible total cost, which includes commissions, efficiency of execution, and market impact.~~
- ~~h. Any investment or action with respect to an investment not expressly allowed is prohibited, unless presented to and approved prospectively by the Committee. All guidelines must be adhered to; however, if from time to time a manager shall deem an exception to the guidelines appropriate, the Chief Investment Officer shall seek review and approval by the Committee to make such an exception.~~

~~Managers are required to inform the Chief Investment Officer of significant matters pertaining to the investment of Retirement Fund assets, including at a minimum, substantive changes in investment strategy and portfolio structure; significant changes in ownership, organizational structure, financial condition or professional staffing; litigation or violation of securities regulations; significant account losses or growth of new business. Managers must inform the Chief Investment Officer in the event of discovering an unintended or involuntary violation of their guidelines or of any of the Policies herein pertaining to them.~~

~~Managers are required to submit periodic reports to the Chief Investment Officer summarizing investment activity and strategy, as per Appendices 6 and 7 and individual guidelines. Managers are required to reconcile investment returns with the custodian each month.~~

~~Specific guidelines for each major asset class will be found in Appendix 7. Manager guidelines will contain specific provisions to ensure that performance objectives and risk exposures are consistent with their particular investment mandate, which may be a style or subset of their larger asset class. However, all individual manager guidelines will be consistent with broad asset class guidelines and this Policy.~~

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APPENDIX 1

Effective: ~~April 1, 2013~~ May 12, 2016

Replaces Version Effective: April 1, 2013

~~July 19, 2012~~

ASSET ALLOCATION, PERFORMANCE BENCHMARKS, AND REBALANCING POLICY

Based on the risk budget for the Retirement Fund, the Committee has adopted the following asset allocation policy, including asset class weights and ranges, benchmarks for each asset class, and the benchmark for the total Retirement Fund.

Criteria for including an asset class in the strategic policy include:

- Contributes positively to the investment objectives of UCRP
- Widely recognized and accepted among institutional investors
- Has low correlation with other accepted asset classes
- Has a meaningful performance history
- Involves a unique set of investors.

~~The Current Policy Allocation recognizes the current underinvestment in illiquid asset classes (real estate, real assets) and the corresponding need to set rebalancing ranges around this effective policy allocation until such time as long-term policy weights in these classes are achieved.~~ The allowable ranges for each asset class and in total have been chosen to be consistent with budgets and ranges for total and active risk. (See Appendix 2.)

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A. Strategic Asset Allocation and Ranges

	<u>Current Policy Allocation</u> ¹	<u>Long-Term Target Allocation</u>	<u>Allowable Ranges</u> ²	
			<u>Minimum</u>	<u>Maximum</u>
U.S. Equity	25.0%	15.0%	20.0	30.0
Developed Non-US Equity	19.0	13.5	14.0	24.0
Emerging Mkt Equity	-6.75	11.0	4.75	8.75
Global Equity	-2.0	-0.0	10.0	60.0
US Fixed Income	12.0	12.0	9.0	16.0
High Yield Fixed Income	-2.5	2.5	1.5	5.0
Emerging Mkt Fixed Income	-2.5	2.5	1.5	5.0
TIPS	-8.0	3.0	0.0	10.0
Private Equity	-7.75	-8.0	4.75	10.75
Absolute Return Strategies	-6.0	6.0	1.0	11.0
Cross Asset Class	-2.0	-8.0	0.0	5.0
Opportunistic Equity	-0.0	-8.5	0.0	3.0
Real Assets	-1.75	3.0	0.75	6.0
Real Estate	-4.75	7.0	1.75	12.0
Liquidity	-0.0	0.0	0.0	10.0
TOTAL	100%	100%		
Combined Public Equity	52.75	39.5	42.75	62.75
Combined Fixed Income	25.0	20.0	20.0	30.0
Combined Alternatives [*]	22.25	40.5	15.25	29.25
Investments [*]				

* Other Investments category including, but not limited to: Real Estate, Private Equity, Real Assets, and Absolute Return Strategies

B. Asset Class Performance Benchmarks

The Committee has adopted the following performance benchmarks for each asset class. Criteria for selection of a benchmark include:

- Unambiguous: the names and weights of securities comprising the benchmark are clearly delineated

¹ Current policy allocation as of January 1, 2013.

² Ranges are set around the Current Policy Allocations, not the Long Term Target Allocations. Ranges will be adjusted accordingly as the Current Policy Allocations converge on Long Term Target Allocations.

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- Investable: ~~the option is to forego active management and simply replicate the benchmark~~ is possible to replicate the benchmark performance by investing in the benchmark holdings
- Measurable: it is possible to readily calculate the benchmark's return on a reasonably frequent basis
- Appropriate: the benchmark is consistent with the Committee's investment preferences or biases
- Specified in Advance: the benchmark is constructed prior to the start of an evaluation period
- 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

<u>Asset Class</u>	<u>Benchmark</u>
U.S. Equity	Russell 3000 Tobacco Free Index
Developed Non-US Equity	MSCI World ex-US (Net Dividends) Tobacco Free
Emerging Mkt Equity	MSCI Emerging Market Free (Net Dividends)
Global Equity	MSCI All Country World Index Net – IMI – Tobacco Free
Fixed Income	Barclays Capital US Aggregate Index
High Yield Fixed Income	Merrill Lynch High Yield Cash Pay Index
Emg Mkt Fixed Income	Dollar Denominated: JP Morgan Emerging Markets Bond Index Global Diversified
TIPS	Barclays Capital US TIPS Index
Private Equity	N/A (See below note 2.)
Absolute Return Strategies	HFRX Absolute Return Index (50%) + HFRX Market Directional Index (50%) <u>HFRI Fund of Funds Composite</u>
Cross Asset Class	Aggregate UCRP Policy Benchmark
Opportunistic Equity	MSCI All Country World Index (Net Dividends)
Real Assets	Commodities: S&P GSCI Reduced Energy Index All other: N/A (See below note 3.)
Real Estate	Public: FTSE EPRA NAREIT Global Index
Real Estate	Private: NCREIF Funds Index – Open End Diversified Core Equity (ODCE), lagged 3 months

Notes on asset class benchmarks:

1. Global Equity: The Chief Investment Officer will determine what constitutes a tobacco company based on standard industry classification of the major index providers (e.g., Russell, MSCI) and communicate this list to investment managers annually and whenever changes occur.
2. Private Equity: *Long-term* portfolio returns will be compared to investable public equity alternatives as well as non-investable peer group indices. There is no appropriate market benchmark to use for *short-term* performance evaluation or decision making.
3. Real Assets (all strategies ex-commodities): similar to Private Equity.

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C. Total Retirement Fund Performance Benchmark

This is the composition of the total Fund performance benchmark referred to in the Investment Policy Statement, Part 4(d). The percentages below add to 100%.

<u>Percentage</u>	<u>Benchmark</u>
25%	× Russell 3000 Tobacco Free Index
19%	× MSCI World ex US (Net Dividends) Tobacco Free
6.75%	× MSCI Emerging Market Free (Net Dividends)
2% <u>50%</u>	× MSCI All Country World Index Net – IMI – Tobacco Free
12 <u>13.0%</u>	× Barclays Capital US Aggregate Index
2.5%	× Merrill Lynch High Yield Cash Pay Index
2.5%	× JP Morgan Emerging Market Bond Index Global Diversified
8 <u>2.0%</u>	× Barclays Capital US TIPS Index
7.75 <u>10.0%</u>	× Actual return of private equity portfolio
6.0%	10.0% × [HFRI Absolute Return Index × 50%] + [HFRI Market Directional Index × 50%] [Abs. Ret. – Diversified] <u>HFRI Funds of Funds Composite</u>
2%	× Aggregate UCRP Policy Benchmark [Abs. Ret. – Cross Asset Class]
0%	× MSCI All Country World Index (Net Dividends)
1.75 <u>3.0%</u>	× Aggregate Real Assets benchmark (see section B), with components weighted by their actual weights within the total real assets portfolio
4.75 <u>7.0%</u>	× <u>NCREIF Funds Index – Open End Diversified Core Equity (ODCE), lagged 3 months</u> Aggregate of Public and Private Real Estate benchmarks (see section B), with components weighted by their actual weights within the total real estate portfolio

Notes on total fund benchmark:

1. The benchmark for private equity is replaced by the private equity portfolio's actual performance. This has the effect of neutralizing the active performance of this class for purposes of total fund performance evaluation. ~~Similar comments apply to private real estate – non-core strategies (closed end funds) and Real Assets (all strategies ex commodities).~~
2. The calculation of the total fund benchmark will assume a monthly rebalancing methodology.
3. In the event of a significant change in asset allocation, ~~The Regents' generalist consultant~~ The Chief Investment Officer in consultation with the Committee may specify an alternative weighting scheme to be used during a transition period.

D. Rebalancing Policy

There will be periodic deviations in actual asset weights from the long-term/current policy asset weights specified above. Causes for periodic deviations are market movements, cash flows, and varying portfolio performance. Significant movements from the asset class policy weights will alter the intended expected return and risk of the Fund. Accordingly, the Investment Committee authorizes the Chief Investment Officer to rebalance the Fund when necessary to ensure adherence to the Investment Policy.

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The Chief Investment Officer will monitor the actual asset allocation at least monthly. The Committee directs the Chief Investment Officer to take all actions necessary, within the requirement to act prudently, to rebalance assets to within the policy ranges in a timely and cost effective manner when actual weights are outside the prescribed ranges. The Chief Investment Officer may utilize derivative contracts (in accordance with Appendix 4) to rebalance the portfolio such that the portfolio's net exposures are consistent with policy ranges.

The Chief Investment Officer shall assess and manage the trade-off between the cost of rebalancing and the active risk associated with the deviation from policy asset weights. With approval from the Chair of the Committee, the Chief Investment Officer may delay a rebalancing program when the Chief Investment Officer believes the delay is in the best interest of the Plan. Results of rebalancing will be reported to the Committee at quarterly meetings.

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

APPENDIX 2

This version: May 12, 2016

RISK MANAGEMENT POLICY

RISK PHILOSOPHY

In its broadest sense, risk refers to the unpredictability of future asset value, and specifically, the chance that assets may decrease, as well as increase, in value. Investment principles and practical experience both support the notion that expected returns are proportional to market risk taken. The Committee recognizes that the assumption of risk is necessary to meet Plan objectives; that is, there are no “risk free” assets, which are sufficient to generate the Plan’s required rate of return. (Even if future benefit payments were known with certainty [and they are *not*], and surplus risk could be eliminated by an appropriate mix of nominal and inflation protected bonds, such a policy would result in unacceptably larger funding costs to the University and to Plan participants). Thus Plan risk management does not require the elimination of risk, but the balancing of risk and expected return. Risk in itself is intrinsically neither good nor bad; it is a resource used to generate investment returns. The Committee recognizes that “The essence of investment management is the management of risks, not the management of returns.”

RISK POLICY

The Committee’s policy regarding investment risk, consistent with modern portfolio theory, is that risk cannot be eliminated but should be managed. That is, plan fiduciaries are responsible for understanding the risks in various investment strategies, ensuring that they are properly compensated for these risks, and measuring and monitoring them continually. In particular, the level of risk taken should be consistent with the return objectives of the Plan.

Fiduciaries set the framework for risk management through the investment policy and guidelines, the strategic asset allocation, and the benchmarks used for performance objectives. However, tolerance for risk (alternatively, aversion to risk) may also be expressed in the form of various metrics for risk (volatility) and acceptable budgets and ranges for those metrics. Where appropriate, the Committee shall define these metrics and budgets for risk and establish acceptable ranges for them (see below).

The Chief Investment Officer is responsible for managing both total and active risk and shall implement procedures and safeguards so that the combined risk exposures of all portfolios in the aggregate are kept within limits established by the Committee (see definitions ~~in section 1 of the Policy above~~ below). Further, within limits of prudent diversification and risk budgets, total and active risk exposures are fungible, that is the Chief Investment Officer may allocate risk exposures within and between asset classes in order to optimize return.

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

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- a. Capital market risk is the risk that the investment returns (in excess of the risk-free rate) associated with the Committee's asset allocation policy are not sufficient to provide the required actuarial return. Responsibility for determining the overall level of capital market risk lies with the Committee.
- b. Investment style risk is associated with an active management investment program. It is the performance differential between an asset class's market target and the aggregate of the managers' benchmarks within the asset class 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.
- c. 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, both at policy allocation. 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).
- d. Tactical/strategic risk is the performance differential between (1) policy allocations for the Retirement Fund's asset categories and its investment managers and (2) the actual allocations. This risk is the responsibility of the Chief Investment Officer.
- e. Total active risk refers to the volatility of the difference between the return of the Retirement Fund policy benchmark (see Appendix 1) and the actual return. It incorporates the aggregate of the risks in (b), (c) and (d) above, and is thus the responsibility of the Chief Investment Officer.
- f. Total investment risk refers to the volatility of the return of the total Retirement Fund assets. It incorporates all elements of investment risk as enumerated above, and is thus the joint responsibility of the Committee and the Chief Investment Officer.
- g. Surplus risk refers to the volatility of the change in the dollar value of Retirement Fund assets versus the change in the dollar value of the Plan's liabilities. The latter represents the ultimate investment objective of the Plan. Because the asset allocation articulates the Committee's risk tolerance, and because The Regents determine the Plan's benefits and liabilities, this risk is the joint responsibility of The Regents and the Committee.
- h. Peer risk refers to the difference in Retirement Fund performance relative to peer institutions. The Committee acknowledges that similar institutions may have different liabilities and different levels of investment risk. Comparisons of performance with other institutions are meaningful only after adjusting for differences in investment policy and risk among peers. This risk is the responsibility of the Committee.

Although the management of investment portfolios may be outsourced, investment oversight and risk management are primary fiduciary duties of the Committee 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 Committee, either quarterly or annually as required below.

RISK METRICS AND BUDGETS

There are different types of risk important at each level of plan investment management and thus different risk metrics are appropriate at each level.

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- Plan level
 - Surplus Risk (insufficient assets to meet liabilities)
 - Measures the risk of inappropriate investment policy and strategy
- Asset class level
 - Total Investment Risk (volatility of total return)
 - Measures the risk of ineffective implementation of strategy
- Portfolio level
 - Active Risk or “Tracking Error” (volatility of deviation from style or benchmark)
 - Measures the risk of unintended exposures or inadequate diversification

- **Surplus risk**

There are several risk measures which focus on surplus risk. The Chief Investment Officer shall report on these measures to the Committee periodically. However, no objective levels (budgets) will be set for these metrics due to the separation of responsibility for investment management and funding policy. Thus results will be presented for information and use in policy reviews.

- **Metric:** Funded Ratio, defined as the ratio of plan assets to liabilities. Plan assets shall be measured at current market value as well as using actuarially smoothing. Liabilities shall be measured as the actuarial accrued liability (AAL). Liabilities, and hence this metric, are formally re-estimated only annually, but should be reviewed quarterly (change in liabilities estimated using liability duration and change in bond yields, as well as accruals for service cost and benefits paid).
- Longer term measures of forecast surplus risk shall be presented annually, in conjunction with asset liability and asset allocation reviews
 - The funded ratio projected over a ten year forecast period, using an actuarial model of assets and liabilities
 - The expected shortfall, defined as the expected loss experienced in worst case market scenarios

- **Retirement Fund Total Investment Risk**

The basis for the risk budget at the total asset level is the Policy benchmark, or neutral position. Thus the risk budget starts with the risk of the benchmark index. Assuming an expected benefit from active management, the impact of deviations from the benchmark is added to the benchmark risk to derive the total risk budget. The Chief Investment Officer shall report on this metric to the Committee quarterly.

- **Metric:** Retirement Fund Total Investment Risk is defined as the annualized standard deviation of the monthly plan returns, exponentially weighted over the previous 12 months. Benchmark Risk (i.e., the Capital Market risk of the strategic asset allocation) is measured similarly (using returns on the policy benchmark).
- **Budget:** Retirement Fund Total Investment Risk shall be maintained at a level equal to the square root of the sum of the squares of Benchmark Risk and the Active Risk budget (see below).
- **Range:** If Retirement Fund Total Investment Risk is greater (less) than 20% above (below) the budgeted level at any quarterly measurement date, the Chief Investment Officer will take appropriate steps to reduce (increase) total Retirement Fund risk to its budget level, including but not limited to rebalancing asset class weights within

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allowable ranges. (For example, if the risk budget is 12%, the allowable range is +/- 2.4% [20% x 12%].)

- **Retirement Fund Active Risk**

There is no neutral or natural budget for active risk. The budget for active risk is determined to be consistent with the tolerance for active risk and the expectation to earn active return due to market inefficiencies and/or investment skill. This budget for active risk includes all of the following types of variation from policy:

1. Temporary asset weights different from strategic policy, but within the allowed ranges [Tactical/strategic risk]
2. Aggregate manager benchmarks different than asset class benchmark [Investment style risk]
3. Aggregate active manager risks [Manager value-added risk], including
 - Aggregate portfolio systematic exposures different from the benchmark
 - Aggregate portfolio security selection decisions
 - Aggregate portfolio currency exposures different from the benchmark

The Chief Investment Officer shall report on this metric to the Committee quarterly.

- **Metric:** Tracking Error is defined as annualized standard deviation of the difference between monthly Retirement Fund returns and monthly policy benchmark returns, exponentially weighted over the previous 12 months
- **Budget:** Tracking Error budget shall be 3.0% annual standard deviation. It is understood that this budget may change when there is a change in
 - asset allocation, or
 - risk tolerance
- **Range:** If Tracking Error is greater (less) than 1.0% (one percentage point) above the budget level at any quarterly measurement date, the Chief Investment Officer will take appropriate steps to reduce tracking error to its budget level, including but not limited to rebalancing asset class and/or manager weights within allowable ranges.

Both Total Investment Risk and Active Risk for the Retirement Fund shall be computed without the impact of Private Equity. For this calculation, it will be assumed that total fund performance excludes Private Equity performance and the total fund benchmark has no Private Equity component. Private Equity is the asset class defined in Appendix 7K.

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APPENDIX 3

FUNDING POLICY

The Regents' funding policy for the Plan has been to establish annual contributions as a percentage of payroll by using the Entry Age Normal actuarial funding method. In fiscal year 1990-91, The Regents adopted a full funding policy. Under this policy, The Regents suspend contributions to the Plan when plan assets, defined as the smaller of

- Market value, or
- Actuarial value

exceed Plan liabilities, defined as the lesser of

- Actuarial accrued liability plus normal cost, or
- 150% of current liability plus normal cost.

This policy is consistent with Internal Revenue Code section 412. Also as part of this policy, The Regents redirected employee contributions to the Plan to a mandatory Defined Contribution Plan, according to the same formula as then existed.

There are three principal factors that affect a pension fund's financial status: 1) contributions, 2) benefit payments and 3) investment performance. Only the latter is dependent upon the investment policy and guidelines contained herein. However, the Committee's level of risk tolerance will take into account all three factors. At certain levels of funded status, it could be impossible for the investments to achieve the necessary performance to meet the promised liabilities. The result is that either benefits have to be reduced, contributions increased or risk tolerance changed.

Definitions:

1. Actuarial value of assets: the value of investments belonging to a retirement plan, as used by the actuary for the purpose of making contributions to the plan. Typically, the actuary calculates a smoothed value to reduce the impact on contributions of market volatility.
2. Market value of assets: the value of investments belonging to a retirement plan, valued at current market prices in accordance with generally accepted accounting principles
3. Actuarial accrued liability: the accumulated value of normal costs allocated to the years before the valuation date (for both current employees, terminated employees with vested benefits, and retirees)
4. Current liability: the actuarial present value of accumulated plan benefits
5. Normal cost: the portion of actuarial present value of plan benefits and expenses which is allocated to the current year by the actuarial cost method

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INVESTMENT POLICY STATEMENT**

APPENDIX 4

This version: November 15, 2012

Last approved: February 14, 2006

DERIVATIVES POLICY

1. INTRODUCTION

The purpose of the Derivatives Policy is to establish permitted (and prohibited) uses of derivatives, to establish procedures for managing risks related to derivative securities, and for monitoring and reporting of their use in the Fund.

2. DEFINITION AND SCOPE

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.

This Policy covers only futures, options, swaps, and their combinations. It is applicable to marketable equity and bond asset classes only, not to absolute return strategies, real estate, or private equity. Securities with embedded option features, such as callable or convertible bonds, or mortgaged backed securities, typically have different risks, and are discussed in the Fixed Income Guidelines.

3. DERIVATIVES POLICY

The Committee recognizes that all investing, including the use of derivatives, involves risk, and that derivatives use is part of modern institutional portfolio management. The principal risk of derivative strategies comes from the potential to lever a portfolio (i.e., to magnify risk exposures using borrowed funds) or otherwise speculate (express views on a security or risk factor without committing capital). Successful and prudent use of derivatives thus depends on

- Well defined uses for derivatives, and avoidance of economic leverage
- Monitoring and measuring risk, and limits on economic exposures
- Investment manager internal controls and defined procedures for managing risk

The following policies govern the use of derivative securities in the Fund:

1. All derivative strategies are *prohibited unless specifically allowed in writing* as part of an investment manager's guidelines. In the latter case, those guidelines must be consistent with the policies stated herein.
2. Use of derivatives to create economic leverage is prohibited, *except for specific strategies only*, as per the Investment Policy Statement of UCRP and GEP, Section 2g, on page 6.
3. Permitted applications for derivatives are (a) efficient substitutes for physical securities, (b) managing risk by hedging existing exposures, or (c) to implement arbitrage or other approved active management strategies, and are detailed in the following section.
4. Although individual derivative securities may be considered risky or inappropriate as stand-alone investments, their use in a portfolio may actually reduce or otherwise manage risk.

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Therefore the risk of derivatives – and their acceptability as investments - should be measured by their impact on the portfolio in which they are used, not in isolation.

5. The Chief Investment Officer shall implement procedures to ensure (a) that the purpose, use, and risks of derivative strategies are well understood and consistent with overall investment objectives and individual strategies, (b) that risks taken are prudent and maintained within acceptable limits, (c) that expected return is commensurate with the risk taken, (d) that their potential impact on the value of the Fund's assets is measured periodically, and (e) that there is compliance with this policy (see below, section 8).

4. USE OF DERIVATIVES

The use of derivatives instruments and strategies will be allowed in three broad areas:

- As efficient substitutes for physical securities for portfolio management , and during portfolio rebalancing, asset allocation, or transition management
 - It is often possible to create the same economic exposure to an asset or asset class by using derivatives as by purchasing the assets directly (in the “cash” or “spot” markets), but with these advantages
 - Reduced transaction cost
 - Increased speed of execution
 - Reduced disruption to existing portfolio strategies
 - Better risk-reward trade-off than exists in the cash markets
- To manage risk by hedging existing exposures
 - Hedging is the process of reducing the possibility for gain or loss over a specific future period by taking an opposite position yet not altering the underlying portfolio structure
- To implement arbitrage strategies
 - Arbitrage is the simultaneous purchase and sale of similar securities in order to capture a perceived pricing disparity between them

These acceptable uses are described in detail below (see sections 4A-C) in the context of specific investment functions.

4A. PORTFOLIO REBALANCING, ASSET ALLOCATION AND TRANSITION MANAGEMENT

Following are potential uses of derivatives, which *may* be permitted for use. This is a representative, not an exhaustive list.

- Maintaining exposure to an asset class or risk factor when large cash inflows or outflows are expected (without changing the existing portfolios' holding of physical securities). In the case of equity portfolios, this is referred to as cash equitization, but the concept and practice applies to any asset class for which derivatives exist.
- Implementing an asset allocation efficiently prior to manager selection and/or before funding is completed
- Implementing a portfolio restructuring / rebalancing efficiently prior to manager selection and/or before funding is completed
- Implementing tactical asset allocation programs efficiently

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- Implementing “alpha transport” or “portable alpha” strategies (i.e., to separate capital market exposures from the active management process and maintain a desired asset allocation while optimizing the use of active risk) between distinct asset classes, such as from (to) equity to (from) fixed income
- Implementing a portfolio insurance strategy during a period of heightened market volatility

4B. EQUITY PORTFOLIO MANAGEMENT

Following are potential uses of derivatives, which *may* be permitted for use. This is a representative, not an exhaustive list.

- Maintaining exposure to an asset class when large cash inflows or outflows are expected (without changing the portfolio’s holding of physical securities)
- Obtaining exposure to a sector, country, or asset class more efficiently or more cheaply than is possible in the spot markets
- Eliminating or reducing the performance “drag” of cash held to facilitate transactions by purchasing ETF’s or futures
- Return enhancement in a risk controlled framework (e.g., selling covered calls)
- Hedging anticipated market moves (without changing a portfolio’s holding of physical securities) using futures and/or options. Such hedging is limited to (a) offsetting existing positions, or (b) offsetting anticipated near term portfolio rebalancing.
- Hedging foreign currency exposure using foreign exchange forwards, futures, or options.
- Implementing long/short, market neutral, or other arbitrage strategies.
- Implementing “alpha transport” or “portable alpha” strategies within an asset class or across distinct equity asset classes

4C. FIXED INCOME PORTFOLIO MANAGEMENT

Following are potential uses of derivatives, which *may* be permitted for use. This is a representative, not an exhaustive list.

- Maintaining exposure to an asset class or risk factor when large cash inflows or outflows are expected (without changing the portfolio’s holding of physical securities)
- Modifying a portfolio’s duration or otherwise changing its exposure to various points along the yield curve (without changing the portfolio’s holding of physical securities)
- Maintaining a portfolio’s targeted yield curve exposure while making sector or security selection decisions which would otherwise change it
- Modifying a portfolio’s credit quality by creating a synthetic credit exposure or neutralizing (hedging) a particular credit exposure
- Obtaining exposure to a sector, country, or asset class more efficiently or more cheaply than is possible in the spot markets
- Facilitating arbitrage strategies, to exploit perceived relative value between securities, subject to the fundamental policy prohibiting leverage stated above
- Eliminating or reducing the performance “drag” of cash held to facilitate transactions by purchasing futures

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- Enhancing return by substituting an exposure in the cash market with a similar derivative exposure
- Hedging anticipated market moves using futures and/or options.
- Hedging foreign currency exposure using foreign exchange forwards, futures, or options.
- Implementing “alpha transport” or “portable alpha” strategies within an asset class or across distinct fixed income asset classes

5. AUTHORITY TO USE DERIVATIVES

The Chief Investment Officer will determine whether the Fund’s investment managers may employ particular permitted strategies. For each investment manager, after determining that the purpose falls within this policy, and that the investment manager has adequate controls and procedures to monitor and measure risk, that manager’s investment guidelines will be developed or modified to permit use of those particular strategies.

The Chief Investment Officer will determine that the investment manager has, at a minimum,

- A defined purpose for each derivatives strategy within the investment mandate, including a thorough understanding of the proposed benefits and potential risks
- Developed and implemented written policies for controlling market, counterparty credit, liquidity, and basis risk
- Ability to value the derivative instruments, and explain the frequency and source of pricing
- Adequate analytical tools to measure and control the risks of the derivatives and assess their impact on the portfolio, on at least a daily basis
- Procedures for periodically stress testing the projected returns of the derivative instruments on both a stand-alone and portfolio basis. In addition, managers must demonstrate awareness of and controls for model risk.
- Adequate internal controls and organizational capabilities for monitoring and reporting market and counterparty credit risk, and internal procedures for identifying and reversing risks in excess of agreed upon limits
- Adequate internal controls and organizational capabilities to account for and control legal, settlement, and operational risk
- Ability to demonstrate compliance with this policy and answer reasonable requests for reporting derivative positions and their risk characteristics

Appropriate senior members of the Office of the Chief Investment Officer, including a senior member of the Risk Management function, will conduct the necessary due diligence and make a recommendation to the Chief Investment Officer concerning the scope of the derivative strategies permitted and any required investment guidelines or amendment(s) to the manager’s investment guidelines.

6. PERMITTED INSTRUMENTS

6A. The following derivative types are permitted under this policy, subject to the conditions and restrictions noted above. This is a representative, not an exhaustive list. As

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markets evolve and new derivative instruments and strategies are developed, the Chief Investment Officer and Regents' Investment Consultant may permit the use of additional derivative instruments or strategies not listed herein, on a case-by-case basis, provided they are consistent with this Policy and with the investment manager's mandate and risk parameters.

- Interest rate futures, commodity futures and equity index futures
- Exchange traded funds (ETFs)
- Foreign currency options, futures and forwards
- Over-the-counter (OTC) options and options on futures
- Swaps and swaptions
- Inverse Floaters
- Credit Default Swaps (CDS)
- Structured Notes, *as long as* the structures are transparent and contain only types and amounts of exposures permitted in these Policies.

6B. The following derivative strategies are not permitted

- Derivative positions creating economic leverage in the portfolio context
- Derivatives used for speculative purposes

7. LIMITATIONS, CONTROLS, AND RESTRICTIONS (see Definitions, section 9)

7A. Portfolio Rebalancing / Asset Allocation

- Selling (writing) uncovered options is prohibited
- Long futures positions must be backed by 100% cash or cash equivalents (i.e., leverage is not permitted)
- Short futures positions must be collateralized by a risk equivalent (long position) of highly correlated physical securities.

7B. Equity Portfolio Management

- The net of long and short dollar exposures to assets or currencies, whether derived from physical or derivative securities, must be less than or equal to the dollar market value of the portfolio, except for very small, inadvertent, or temporary amounts that occur in the normal course of portfolio management
- The gross dollar exposures of the portfolio from physical and derivative securities (whether futures, options, or swaps), cannot exceed 300% of the market value of the aggregate underlying portfolio, at all times
- The Chief Investment Officer may impose further limits on the use of derivatives so that derivative notional values are not only constrained by their contribution to portfolio risk factors (such as beta, regional or industry exposure) but also with consideration to: liquidity, counterparty credit risk, pricing transparency, and model risk. Thus derivative use may be limited even if other portfolio risk limits are not breached.

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7C. Foreign Exchange Transactions

- Foreign exchange derivative contracts must have a maturity less than or equal to the anticipated holding period of the underlying security.

7D. Fixed Income Portfolio Management

- The net of long and short dollar exposures to assets or currencies, whether derived from physical or derivative securities, must be less than or equal to the dollar market value of the portfolio, except for very small, inadvertent, or temporary amounts that occur in the normal course of portfolio management
- The gross dollar exposures of the portfolio from physical and derivative securities (whether futures, options, or swaps), cannot exceed 300% of the market value of the aggregate underlying portfolio, at all times
- The Chief Investment Officer may impose further limits on the use of derivatives so that derivative notional values are not only constrained by their contribution to portfolio risk factors (such as contribution to portfolio effective duration and spread duration) but also with consideration to: liquidity, counterparty credit risk, pricing transparency, and model risk. Thus derivative use may be limited even if other portfolio risk limits are not breached.

8. MONITORING AND REPORTING

The Chief Investment Officer will implement procedures for periodic monitoring of derivative strategies. Investment managers will be required to provide the following to the Chief Investment Officer:

- Month end position report of derivatives
 - Report will include impact on portfolio, using metrics determined by the Chief Investment Officer
 - For fixed income managers only, report will include contribution to portfolio effective duration and effective convexity
- Quarterly statement of compliance with this policy
- Quarterly strategy report, including economic exposure to each class of derivatives, their use within the portfolio, performance characteristics, and risk controls employed.
- Quarterly report on counterparty credit risk for OTC derivatives

When derivatives are used by the Chief Investment Officer for portfolio rebalancing or asset allocation, the Operations and Trading functions will provide the following to the Chief Investment Officer:

- Daily position, exposure, and profit/loss (P/L) reports

The Chief Investment Officer's risk management process for derivatives will include:

- Monthly reconciliation of managers' derivatives reports with custodian positions in derivatives (for all managers who are permitted to use derivatives)
- Monthly review of Managers' use of derivatives relative to their own policies and with their intended use of derivatives, and with this Policy
- Monthly reports of risk model results (for fixed income managers only)

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- Contribution to effective duration and effective convexity, by portfolio, of *all* positions
- Economic exposures and risk characteristics of derivatives designated in section A above
- Stress tests will be required for volatile classes of derivatives such as IOs, POs, and Inverse Floaters
- A monthly statement that all portfolios are in compliance with this policy, and a description of any instances of non-compliance and their disposition
- An annual report on potential model risk (for the risk model currently in use by the Chief Investment Officer)

While the risk of an individual derivative security may be large, risk will be assessed in a portfolio framework (i.e., how each portfolio responds to various market and interest rate scenarios, with and without the derivatives).

9. DEFINITIONS

- a. Derivative: a bilateral contract or payment exchange agreement whose value derives from the value of an underlying asset, reference rate, or index.
- b. Investment Manager: term includes portfolio managers with a fiduciary responsibility for a given investment mandate, whether directly employed by the Chief Investment Officer or an external asset management firm.
- c. Leverage: in the context of these guidelines means “economic leverage,” not “gross leverage.”
- d. Economic leverage: in the context of portfolio management, is defined as a net dollar exposure to assets in excess of the dollar amount of invested capital as measured by current market value
- e. Net dollar exposure (of a portfolio): the arithmetic sum of the dollar market values of all long (positive) and short (negative) positions in securities, plus the notional value of futures contracts, plus the dollar delta of options contracts.
- f. Dollar delta (of an option): a measure of net dollar exposure of an option; defined to be the option’s notional value times the option’s delta.
- g. Gross dollar exposure is defined as the sum of the combined long exposures and the absolute value of the short exposures, including all physical and derivative securities positions.
- h. Gross leverage: a term used to indicate that the gross dollar exposure of a portfolio exceeds the net market value of the total portfolio

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APPENDIX 5

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

PROXY VOTING POLICY

INTRODUCTION

~~It is part of the generally accepted standards of fiduciary care that proxy voting rights must be diligently exercised as an aspect of fiduciary duty. The purpose of this policy is to establish the principles and process for the exercise of that duty.~~

It is part of the generally accepted standards of fiduciary care that proxy voting rights should be duly exercised as a principle fiduciary duty. The purpose of this policy is to establish the principles and process for the exercise of this duty. Voting rights are important to fiduciary responsibility as a means to promote good corporate governance that aligns with the University's interests and goals as a long-term investor. The Office of the Chief Investment Officer believes that prudent exercise of voting rights promotes long-term shareholder value. The duty of prudence includes considerations based on financial criteria, as well as prudent governance, social, and environmental practices.

PROXY VOTING POLICY

- ~~1. In general, but with certain exceptions, proxy issues that are of a routine business management nature, such as election of directors and appointment of auditors, are voted in accordance with the recommendations of management.~~
- ~~2. Other issues will be reviewed case by case and are generally voted according to existing Chief Investment Officer's Proxy Guidelines (see Exhibit I).~~
- ~~3. For all shares in the Russell 3000 Index portfolio managed by State Street Global Advisors (SSGA), the manager will vote proxies in accordance with the Chief Investment Officer's Proxy Guidelines.~~
- ~~4. For all shares in the MSCI EAFE Index fund, SSGA will vote proxies in accordance with SSGA's Proxy voting policy, incorporated by reference.~~
- ~~5. If the Chief Investment Officer's Proxy Guidelines conflict with those of SSGA, those of the Chief Investment Officer shall have precedence.~~
- ~~6. SSGA may use a third party organization, such as Institutional Shareholder Services (ISS) to manage the voting process and will provide a written summary of all proxy votes on all Fund assets on an annual basis.~~
- ~~7. For all shares in external managers' portfolios, the Chief Investment Officer will appoint a third party organization, such as Institutional Shareholder Services (ISS), to vote all proxies in accordance with the Chief Investment Officer's Proxy Guidelines, and to provide a written summary of all proxy votes on all Fund assets on an annual basis.~~

The voting guidelines of our elected proxy voting advisor(s) and/or our investment managers reflect viewpoints with respect to essential elements of good governance such as transparency, board alignment with shareholder interests, shareholder rights and business ethics. In general, we

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vote according to the proxy voting guidelines developed by our elected proxy voting advisor(s) or our investment managers.

Typically, but with certain exceptions:

- proxy issues that are of a routine business management nature, such as election of directors and appointment of auditors, are voted in accordance with the recommendations of management;
- environmental, social or governance (ESG) proxy issues are voted in accordance with our sustainable investment framework (“Sustainability Impacts Investing” available at the following link: <http://www.ucop.edu/investment-office/files/sustainable-investment-framework.pdf>).

Our elected proxy voting advisor(s) and/or investment managers who manage the voting process on our behalf will provide a written summary of all proxy votes on all fund assets on an annual basis.

Our elected proxy voting advisor(s) will provide each year a written summary of changes to its voting guidelines for the ensuing year. The Office of the Chief Investment Officer will inform the elected proxy voting advisor(s) and/or its investment managers where specific guidelines deviate from the priorities of the Office of the Chief Investment Officer and will work with the proxy voting advisor(s) and/or investment managers to reconcile these differences as practicable/possible.

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

~~APPENDIX 5 – EXHIBIT I~~

~~OFFICE OF THE CHIEF INVESTMENT OFFICER GUIDELINES FOR PROXY VOTING~~

~~Note: These are general guidelines with broad application. Company specific issues, such as past performance, shareholder responsiveness, etc. may result in a deviation from the standard recommendation.~~

~~I. Social Issues~~

~~Issues that are controversial or relate to social issues (i.e., tobacco issues, animal testing, military contracts, etc.) are reviewed on a case-by-case basis in light of their potential long-term economic impact on shareholders, along with ongoing review of company codes of conduct and social responsibility, any existing UC policies, and the advice of independent proxy monitor services. This may result in a vote against management if the company is not reasonably responsive to shareholder concerns.~~

~~II. Corporate Governance~~

~~A. Classified Board (or staggered board proposals): The Chief Investment Officer recommends annual elections for directors and that classified boards not be allowed, as they tend to entrench management.~~

~~B. Cumulative voting or restoration of cumulative voting issues: In general, the Chief Investment Officer recommends a vote in favor of cumulative voting. California law allows companies incorporated in the state to eliminate cumulative voting with shareholder vote.~~

~~C. Preemptive Rights or restoration of limited preemptive rights: The Chief Investment Officer recommends a vote in favor, as this is normally good for shareholders.~~

~~D. Confidential Voting Issues: The Chief Investment Officer recommends a vote with management, as existing voting safeguards are normally adequate to protect shareholder interests.~~

~~E. Authorization of blank check preferred (poison pill): The Chief Investment Officer recommends a vote against these anti-takeover measures as they overtly entrench management and have specific anti-takeover intent.~~

~~F. Fair price super-majority proposals: The Chief Investment Officer recommends a vote against supermajority proposals of 85 percent or more.~~

~~G. Golden Parachutes: Although the Chief Investment Officer recommends a vote against these incentives for management when they provide overly rich rewards for executives upon a takeover of the company, they should be assessed on a case-by-case basis with that negative criterion in mind.~~

~~III. Compensation Issues~~

~~A. Stock option plans resulting in over 10 percent dilution shall be examined on a case-by-case basis to determine the dilution in the context of the peer group and norms. Plans with excessive dilution may be voted against.~~

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

~~B. Stock options for non-employee directors are examined on a case-by-case basis. Excessively rich plans for non-employee directors, where the annual payments exceed the average for its peer group may be voted against.~~

~~C. Compensation for non-employee directors, which take the form of retirement payments, is normally voted against.~~

~~D. Exchanging underwater options (granting lower priced options to replace higher priced options) issues are normally voted against.~~

~~E. Granting stock options to executives to be exercised at less than fair market value is normally voted against.~~

~~F. Employee stock purchase plans normally are voted in favor as they involve a purchase of common shares at 15 percent of market value through payroll deduction. Plans at discounts of more than 85 percent (although there are very few) are examined on a case-by-case basis.~~

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 6

This version: November 15, 2012

Last approved: August 16, 2005

**INVESTMENT MANAGER
SELECTION, OVERSIGHT, REVIEW, AND TERMINATION**

When selecting investment managers, the Chief Investment Officer will:

- Follow a due-diligence process to make prudent selections of investment managers. The due-diligence process will involve analyzing investment manager candidates in terms of certain:
 - **Qualitative Characteristics**, such as key personnel, investment philosophy, investment strategy, research orientation, decision-making process, and risk controls.
 - **Quantitative Characteristics**, such as CFA Institute-compliant composite return data, risk-adjusted rates of return (e.g., information ratios), and other risk factors.
 - **Organizational Factors**, such as type and size of firm, ownership structure, client-servicing capabilities, record of gaining and keeping clients, and fees.Other factors will be considered as part of the due-diligence process as facts and circumstances warrant.
- Use third-party database(s) to access appropriate screening information and ensure an unbiased and objective search process.
- With respect to qualified retirement plans, select only entities that meet the definition of “investment manager” under Section 3(38) of ERISA (a bank, insurance company, or investment adviser registered under the Investment Advisers Act of 1940).

A key aspect of a prudent investment program is the designation of a performance benchmark for each investment manager. This benchmark should be specified in writing, and should satisfy the same set of quality criteria as stated for asset class benchmarks in [Appendix 1](#), section B. In addition, the benchmark for an actively managed portfolio should also satisfy the criteria of Ownership: the investment manager should be aware of and accept accountability for the constituents and performance of the benchmark. It is encouraged that the benchmark be embedded in and integral to the investment process and procedures of the investment manager.

Investment managers will provide to the Chief Investment Officer the following:

- A monthly performance statement for the portfolio (gross and net) and the benchmark. Also include the gross performance for the product Composite at least quarterly
- If available, a monthly or quarterly forecast risk report, using the investment manager’s risk system, showing the total, systematic (“common factor”), and non-systematic (“residual”) risk of the portfolio relative to the benchmark
- A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences
- A quarterly review of portfolio and strategy performance including a market outlook
- An annual statement of compliance with investment guidelines
- Any other items specified by the appropriate guidelines under the Policy

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In order to ensure that thorough and consistent manager oversight is carried out on a regular basis, it is the intent of the Chief Investment Officer to meet with each investment manager once each calendar year, and no less than once every eighteen months. In addition to the investment performance review listed above, several other issues will be reviewed. These include brokerage commissions, account turnover, personnel turnover, client service issues, investment guideline compliance and changes in ownership.

The Committee acknowledges that, from time to time, it may be necessary to replace an existing investment manager. Consequently, the following guidelines will govern review and/or termination of investment managers because of qualitative, quantitative, or organizational concerns.

At each quarterly performance evaluation, the Chief Investment Officer will initiate an inquiry should any investment manager not meet the established performance objectives, including:

- Significantly underperform the previously agreed-upon benchmark over the cumulative performance period, with proper adjustment for the manager's active risk.

Additionally, the Chief Investment Officer will initiate an inquiry should any investment manager:

- Undergo significant organizational changes, including departure of key investment professionals;
- Implement significant change in strategy;
- Be involved in material litigation;
- Be involved in an SEC or other securities investigation;
- Be acquired by or acquire another firm.

After reviewing the appropriate qualitative and quantitative information, the Chief Investment Officer may deem it appropriate to terminate, place the investment manager on notice, or to take no action at that time. In cases in which the manager is placed on notice, the manager will be informed of this decision in writing. The manager may be removed from this status upon exhibiting significant organizational and/or performance changes.

Should the investment manager fail to exhibit the desired changes, the Chief Investment Officer will conduct further discussions and analysis to determine if termination is warranted. While a systematic process will be carried out in such instances, the decision to retain or terminate a manager will not be made by a formula and will be made at the discretion of the Chief Investment Officer. It is a judgment that depends on the Chief Investment Officer's confidence in the investment firm to perform in the future.

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

APPENDIX 7

Asset Class Guidelines

- ~~7A) U.S. Equity Guidelines~~
- ~~7B) Developed Market Non US Equity Guidelines~~
- ~~7C) Emerging Market Equity Guidelines~~
- ~~7D) Global Equity Guidelines~~
- ~~7E) Long Duration Fixed Income Guidelines~~
- ~~7F) Core Fixed Income Guidelines~~
- ~~7G) TIPS (Treasury Inflation Protected Securities) Guidelines~~
- ~~7H) Non-Dollar Denominated Fixed Income Guidelines~~
- ~~7I) High Yield Fixed Income Guidelines~~
- ~~7J) Emerging Market Debt Guidelines~~
- ~~7K) STIP Guidelines~~
- ~~7L) Private Equity Guidelines~~
- ~~7M) Private Real Estate Guidelines~~
- ~~7N) Public Real Estate Guidelines~~
- ~~7O) Absolute Return Strategies Guidelines~~
- ~~7P) Real Assets Investment Guidelines~~
- ~~7Q) Limits on the Size of Investments with Public Equity and Fixed Income Managers~~

APPENDIX 7

This version: May 12, 2016

ASSET CLASS AND MANAGER INVESTMENT GUIDELINES

The general guidelines that apply to all investment managers are:

- a. Subject to constraints and restrictions imposed by the manager guidelines, all decisions regarding sector and security selection, portfolio construction, and timing of purchases and sales are delegated to the investment manager.
- b. The purchase of securities issued by tobacco companies is prohibited in separately managed accounts. The Regents have defined a tobacco company as “a company which derives its revenues from the manufacture and distribution of tobacco products or, if a diversified company, that no other business line contributes more revenues or earnings than tobacco products.” The Chief Investment Officer will determine what constitutes a tobacco company based on standard industry classification of the major index providers (e.g., Russell, MSCI) and communicate this list to investment managers annually and whenever changes occur. The Committee recognizes that the establishment of social investing restrictions limits investment opportunities and should be accompanied by adjusting performance evaluation standards appropriately.

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- c. The direct purchase of property owned or a security issued by the University, its subsidiaries and affiliates, is prohibited
- d. The purchase of non-negotiable securities is prohibited in the equity and fixed income asset classes.
- e. The use of derivative securities or contracts to create economic leverage in the portfolio is prohibited. Acceptable and prohibited uses of derivatives are found in the derivatives policy in [Appendix 4](#).
- f. Transactions that involve a broker acting as a "principal," where such broker or an affiliate is also the investment manager, who is making the transaction, are prohibited.
- g. Transactions shall be executed at the lowest possible total cost, which includes commissions, efficiency of execution, and market impact.
- h. Any investment or action with respect to an investment not expressly allowed is prohibited, unless presented to and approved prospectively by the Committee. All guidelines must be adhered to; however, if from time to time a manager shall deem an exception to the guidelines appropriate, the Chief Investment Officer shall seek review and approval by the Committee to make such an exception.

Managers are required to inform the Chief Investment Officer of significant matters pertaining to the investment of Retirement Fund assets, including at a minimum, substantive changes in investment strategy and portfolio structure; significant changes in ownership, organizational structure, financial condition or professional staffing; litigation or violation of securities regulations; significant account losses or growth of new business. Managers must inform the Chief Investment Officer in the event of discovering an unintended or involuntary violation of their guidelines or of any of the Policies herein pertaining to them.

Managers are required to submit periodic reports to the Chief Investment Officer summarizing investment activity and strategy, as per [Appendices 6 and 7](#) and individual guidelines. Managers are required to reconcile investment returns with the custodian each month.

Specific guidelines for each major asset class will be found in [Appendix 7](#). Manager guidelines will contain specific provisions to ensure that performance objectives and risk exposures are consistent with their particular investment mandate, which may be a style or subset of their larger asset class. However, all individual manager guidelines will be consistent with broad asset class guidelines and this Policy.

Restrictions

The Managers may **not**

- Purchase securities of tobacco related companies, as per the Policy.
- Lend securities
- Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities (Fixed Income)
- Purchase equity securities (other than preferred stock) or commodities or their derivatives (Fixed Income)
- Purchase commodities or commodity derivatives
- Purchase fixed income securities except for cash equivalents and margin requirements as part of a portable alpha strategy (Public Equity)

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- Buy party-in-interest securities
- Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted
- Employ economic leverage in the portfolio through borrowing or derivatives
- Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times

Other Constraints and Considerations

- Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.
- Managers shall act solely in the interests of the Fund's constituents.
- Implementation of this Program shall comply with the Fund's Policy.

Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.

Managing Cash Flows

The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.

Evaluation and Review

a. Policy and Guideline Review

The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.

b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.

Reporting

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- a. A performance attribution explaining differences in sector weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.
- b. A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.
- c. A summary of individual manager performance, on an absolute and benchmark relative basis.

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Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- a. A monthly performance statement for the portfolio (gross and net) and the benchmark, and provide the gross performance for the product Composite at least quarterly.
- b. If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.
- c. A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.
- d. A quarterly review of portfolio and strategy performance including a market outlook.
- e. An annual statement of compliance with investment guidelines.
 - 7A) U.S. Equity Guidelines
 - 7B) Developed Market Non US Equity Guidelines
 - 7C) Emerging Market Equity Guidelines
 - 7D) Global Equity Guidelines
 - 7E) Long Duration Fixed Income Guidelines
 - 7F) Core Fixed Income Guidelines
 - 7G) TIPS (Treasury Inflation Protected Securities) Guidelines
 - 7H) Non Dollar Denominated Fixed Income Guidelines
 - 7I) High Yield Fixed Income Guidelines
 - 7J) Emerging Market Debt Guidelines
 - 7K) STIP Guidelines
 - 7L) Private Equity Guidelines
 - 7M) Private Real Estate Guidelines
 - 7N) Public Real Estate Securities Guidelines
 - 7O) Absolute Return Strategies Guidelines
 - 7P) Real Assets Investment Guidelines
 - 7Q) Limits on the Size of Investments with Public Equity and Fixed Income Managers

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

APPENDIX 7A

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

U.S. EQUITY INVESTMENT GUIDELINES

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the U.S. Equity allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in common stocks of US companies which exceeds the return on the broad US equity market, measured by the Russell 3000 Tobacco Free Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the broad equity market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 250 basis points. Each Manager will have a unique active risk budget, relative to its style

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benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. Other Constraints and Considerations

- Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.
- Managers shall act solely in the interest of the Fund's constituents.
- Implementation of this Program shall comply with the Fund's Policy.

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity-related securities at all times. Any cash or held by Managers for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivatives contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of common stocks that are listed on national securities exchanges. These common stocks shall be predominantly of companies domiciled in the United States, or which derive the majority of their sales and earnings from the United States. Managers may also invest in stocks that are traded over-the-counter and in other equity-related securities and private placements as limited in their guidelines. Subject to limitations in their guidelines, Managers may also obtain equity exposure through their own specialty commingled funds.

Use of and limits on equity derivative securities by individual managers must be specified in writing in their guidelines and must be consistent with the Derivatives Policy, Appendix 4.

Nothing in these guidelines shall be construed to restrict the use of diversified global equity strategies (consisting of equities of U.S. and Non-U.S. domiciled companies). The Chief Investment Officer shall ensure that such strategies are consistent with both these guidelines and the guidelines of the Non-U.S. equity Program, and the Manager(s)' guidelines will be structured to ensure that performance and risk objectives for both equity classes are met.

c. Restrictions

~~The Managers may not~~

- ~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~Lend securities~~
- ~~Purchase commodities or commodity derivatives~~
- ~~Purchase fixed income securities except for cash equivalents and margin requirements as part of a portable alpha strategy~~
- ~~Buy party in interest securities~~
- ~~Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives~~

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- ~~• Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times~~

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures. The following limitations apply:

- The Program's beta with respect to the Benchmark will deviate from the benchmark and typically not be significantly different from 1.0~~range from 0.8-1.1~~, as measured over the most recent 12-month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.
- The aggregate holdings of any security may not exceed 4.97.5%~~4.97.5%~~ of that security's outstanding shares.
- No investment with any single manager can represent more than 1220%~~1220%~~ of the total Program's assets. Passive (i.e., index replicating) managers are not subject to this limitation.

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

f. Managing Cash Flows

~~The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.~~

~~3. Evaluation and Review~~

a. Policy and Guideline Review

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. Reporting~~

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~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~d. — A performance attribution explaining differences in sector weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~e. — A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~f. — A summary of individual manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~f. — A monthly performance statement for the portfolio (gross and net) and the benchmark, and provide the gross performance for the product Composite at least quarterly.~~
- ~~g. — If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non systematic ("residual") risk of the portfolio relative to the benchmark.~~
- ~~h. — A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~i. — A quarterly review of portfolio and strategy performance including a market outlook.~~
- ~~j. — An annual statement of compliance with investment guidelines.~~

5. — Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7B

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**DEVELOPED MARKET NON U.S. EQUITY
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Developed Market Non U.S. Equity allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in common stocks of Non US domiciled, developed market companies which exceeds the return of the MSCI World ex-US (Net Dividends) Tobacco Free Index (“Benchmark”), while maintaining risk similar to that of the Benchmark. The Benchmark shall be unhedged. (See part (e) below.)

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the broad equity market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 300 basis points. Each Manager will have a unique active risk budget, relative to its style benchmark,

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which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. Currency Risk

The Committee accepts that as a US dollar denominated investor, investing in Non US developed markets equity implicitly involves currency risk. The Committee accepts this additional risk or volatility as part of the asset class and has adopted an “unhedged” performance benchmark. An unhedged benchmark is a benchmark in which the underlying securities’ returns are translated from their local currency back to US dollars at each measurement date.

However, this general policy toward currency risk shall not prevent individual Managers from fully or partially hedging or otherwise actively managing the currency risk in their portfolios (subject to their individual guidelines). Nor shall it prevent the Chief Investment Officer from employing currency overlay managers to manage the currency risk of the aggregate portfolio.

The contribution to active risk resulting from the aggregate of active currency management, whether by Managers or by the Chief Investment Officer’s overlay managers, shall be included in the total tracking error and be subject to limitations above and to the Retirement Fund’s overall risk budget as described in Appendix 2.

f. ~~Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interests of the Fund’s constituents.~~
- ~~• Implementation of this Program shall comply with the Fund’s Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity related securities at all times. Any cash held by Managers for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivative contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of common stocks that are listed on national securities exchanges. These common stocks shall be predominantly of developed market companies domiciled outside the United States, or which derive the majority of their sales and earnings from countries outside the United States. Managers may also invest in stocks that are traded over-the-counter and in other equity-related securities and private placements as limited in their guidelines. Subject to limitations in their guidelines, Managers may also obtain equity exposure through their own specialty commingled funds.

Managers may use currency futures, forward contracts, or options to manage currency risk and hedge existing equity exposures. Use of and limits on equity derivative securities by individual managers must be specified in writing in their guidelines and must be consistent with the Derivatives Policy, Appendix 4.

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Nothing in these guidelines shall be construed to restrict the use of diversified global equity strategies (consisting of equities of U.S. and Non-U.S. domiciled companies). The Chief Investment Officer shall ensure that such strategies are consistent with both these guidelines and the guidelines of the U.S. equity Program, and the Manager(s)' guidelines will be structured to ensure that performance and risk objectives for both equity classes are met.

~~e. Restrictions~~

~~The Managers may not~~

- ~~• Purchase securities of tobacco related companies, within separately managed accounts, as per the Policy, section 5b.~~
- ~~• Lend securities~~
- ~~• Purchase commodities or commodity derivatives within separately managed accounts~~
- ~~• Purchase fixed income securities except for cash equivalents and margin requirements as part of a portable alpha strategy~~
- ~~• Buy party in interest securities~~
- ~~• Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted~~
- ~~• Employ economic leverage in the portfolio through borrowing or derivatives~~
- ~~• Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times~~

~~cd. Diversification and Concentration~~

~~The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures, including country allocation, industry allocation, and currency. The following limitations apply:~~

- ~~• The Program's beta with respect to the Benchmark will deviate from the benchmark and typically not be significantly different from 1.0 range from 0.8-1.1, as measured over the most recent 12 month period.~~
- ~~• Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.~~
- ~~• The aggregate holdings of any security may not exceed 4.97.5% of that security's outstanding shares.~~
- ~~• No investment with any single manager can represent more than 1220% of the total Program's assets. Passive (i.e., index replicating) managers are not subject to this limitation.~~

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

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~~f. — Managing Cash Flows~~

~~The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.~~

~~3. — Evaluation and Review~~

~~a. — Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. — Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. — Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. — A performance attribution explaining differences in sector, country, and currency weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. — A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. — A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. — A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- ~~b. — If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- ~~c. — A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. — A quarterly review of portfolio and strategy performance including a market outlook~~
- ~~e. — An annual statement of compliance with investment guidelines~~

~~5. — Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7C

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**EMERGING MARKET NON U.S. EQUITY
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Emerging Market Non U.S. Equity allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in common stocks of emerging market domiciled companies which exceeds the return on the MSCI Emerging Market (Net Dividends) Index (“Benchmark”), while maintaining risk similar to that of the Benchmark. The Benchmark shall be unhedged. (See part (e) below.)

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the broad equity market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 400 basis points. Each Manager will have a unique active risk budget, relative to its style benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

e. Currency Risk

The Committee accepts that as a US dollar denominated investor, investing in Emerging Markets equity implicitly involves currency risk. The Committee accepts this additional risk or volatility as part of the asset class and has adopted an “unhedged” performance benchmark. An unhedged benchmark is a benchmark in which the underlying securities’ returns are translated from their local currency back to US dollars at each measurement date.

However, this general policy toward currency risk shall not prevent individual Managers from fully or partially hedging or otherwise actively managing the currency risk in their portfolios (subject to their individual guidelines). Nor shall it prevent the Chief Investment Officer from employing currency overlay managers to manage the currency risk of the aggregate portfolio.

The contribution to active risk resulting from the aggregate of active currency management, whether by Managers or by the Chief Investment Officer’s overlay managers, shall be included in the total tracking error and be subject to limitations above and to the Retirement Fund’s overall risk budget as described in Appendix 2.

f. ~~Other Constraints and Considerations~~

- ~~Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~Managers shall act solely in the interests of the Fund’s constituents.~~
- ~~Implementation of this Program shall comply with the Fund’s Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity related securities at all times. Any cash held by Managers for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivatives contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of common stocks that are listed on national securities exchanges. These common stocks shall be predominantly of companies domiciled in emerging market countries. Managers may also invest in stocks that are traded over-the-counter and in other equity-related securities and private placements as limited in their guidelines. Subject to limitations in their guidelines, Managers may obtain equity exposure through their own specialty commingled funds.

Managers may use currency futures, forward contracts, or options to manage currency risk and hedge existing equity exposures. Use of and limits on equity derivative securities by individual managers must be specified in writing in their guidelines and must be consistent with the Derivatives Policy, Appendix 4.

e. ~~Restrictions~~

~~The Managers may not~~

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

- ~~Purchase securities of tobacco-related companies, within separately managed accounts, as per the Policy, section 5b.~~
- ~~Lend securities~~
- ~~Purchase commodities or commodity derivatives, within separately managed accounts~~
- ~~Purchase fixed income securities within separately managed accounts, except for cash equivalents and margin requirements as part of a portable alpha strategy, or in lieu of the same company's equity securities~~
- ~~Buy party in interest securities~~
- ~~Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives~~
- ~~Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times~~

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures, including country allocation, industry allocation, and currency.

The following limitations apply:

- The Program's beta with respect to the Benchmark will deviate from the benchmark and typically not be significantly different from 1.0~~range from 0.8-1.1~~, as measured over the most recent 12 month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.
- The aggregate holdings of any security may not exceed 4.97.5%~~4.97.5%~~ of that security's outstanding shares.
- No investment with any single manager can represent more than 1520%~~1520%~~ of the total Program's assets. Passive (i.e., index replicating) managers are not subject to this limitation.

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

f. Managing Cash Flows

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.

3. ~~Evaluation and Review~~

a. ~~Policy and Guideline Review~~

The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.

b. ~~Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4. ~~Reporting~~

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- a. ~~A performance attribution explaining differences in sector, country, and currency weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- b. ~~A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- c. ~~A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- a. ~~A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- b. ~~If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- c. ~~A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- d. ~~A quarterly review of portfolio and strategy performance including a market outlook~~
- e. ~~An annual statement of compliance with investment guidelines~~

5. ~~Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7D

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~March 19, 2008~~ November 15, 2012

**GLOBAL EQUITY
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Global Equity allocation of the Fund (“the Program”). Wherever appropriate, these guidelines and objectives are consistent with guidelines for other Public Equity classes. These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in common stocks which exceeds the return on the global equity market, measured by the MSCI All Country World Index (ACWI) Investable Market Tobacco Free (Net Dividends) Index (“Benchmark”), while maintaining risk similar to that of the Benchmark. The Benchmark shall be unhedged. (See part (e) below.)

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the global equity market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 400 basis points. Each Manager will have a unique active risk budget, relative to its style

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benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. Currency Risk

The Committee accepts that as a US dollar denominated investor, investing in Global equity implicitly involves currency risk. The Committee accepts this additional risk or volatility as part of the asset class and has adopted an “unhedged” performance benchmark. An unhedged benchmark is a benchmark in which the underlying securities’ returns are translated from their local currency back to US dollars at each measurement date.

However, this general policy toward currency risk shall not prevent individual Managers from fully or partially hedging or otherwise actively managing the currency risk in their portfolios (subject to their individual guidelines). Nor shall it prevent the Chief Investment Officer from employing currency overlay managers to manage the currency risk of the aggregate portfolio.

The contribution to active risk resulting from the aggregate of active currency management, whether by Managers or by the Chief Investment Officer’s overlay managers, shall be included in the total tracking error and be subject to limitations above and to the Retirement Fund’s overall risk budget as described in Appendix 2.

~~f. Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund’s constituents.~~
- ~~• Implementation of this Program shall comply with the Fund’s Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity-related securities at all times. Any cash or held by Managers for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivatives contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of common stocks that are listed on national securities exchanges. Managers may also invest in stocks that are traded over-the-counter and in other equity-related securities (such as ETF’s) and private placements as limited in their guidelines. Subject to limitations in their guidelines, Managers may also obtain equity exposure through their own specialty commingled funds.

Managers may use currency futures, forward contracts, or options to manage currency risk and hedge existing equity exposures. Use of and limits on currency and equity derivative securities by managers must be specified in writing in their guidelines and must be consistent with the Derivatives Policy, Appendix 4.

~~e. Restrictions~~

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~~The Managers may not~~

~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~

~~Lend securities~~

~~Purchase commodities or commodity derivatives~~

~~Purchase fixed income securities except for cash equivalents and margin requirements as part of a portable alpha strategy~~

~~Buy party in interest securities~~

~~Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted~~

~~Employ economic leverage in the portfolio through borrowing or derivatives~~

~~Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times~~

dc. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures. The following limitations apply:

- The Program's beta with respect to the Benchmark will deviate from the benchmark and typically not be significantly different from 1.0~~range from 0.8-1.1~~, as measured over the most recent 12 month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.
- The aggregate holdings of any security may not exceed 4.97.5%~~4.97.5%~~ of that security's outstanding shares.
- No investment with any single manager can represent more than 1520%~~1520%~~ of the total Program's assets. Passive (i.e., index replicating) managers are not subject to this limitation.

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

f. Managing Cash Flows

~~The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.~~

3. Evaluation and Review

a. Policy and Guideline Review

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4. Reporting

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. A performance attribution explaining differences in sector, currency, and country weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. A summary of individual manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. A monthly performance statement for the portfolio (gross and net) and the benchmark, and provide the gross performance for the product Composite at least quarterly.~~
- ~~b. If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.~~
- ~~c. A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. A quarterly review of portfolio and strategy performance including a market outlook.~~
- ~~e. An annual statement of compliance with investment guidelines.~~

5. Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7E

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**LONG DURATION FIXED INCOME
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Long Duration Fixed Income allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in US dollar denominated bonds which exceeds the return on the long duration US fixed income market, as measured by the Citigroup Large Pension Fund Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by the Chief Investment Officer’s internal fixed income staff, and may be supplemented by hiring multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each strategy will focus on a subset of the broad fixed income market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all fixed income portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 150 basis points. Each Manager will have a unique active risk budget, relative to its style

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INVESTMENT POLICY STATEMENT

benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

~~e. Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested **primarily** in marketable, publicly traded, investment grade fixed income instruments, notes and debentures denominated in U.S. dollars.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions as noted in general asset class and manager guidelines below in section 2e and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, ~~subject to the restrictions in 2e. and 2d. below.~~

1. Fixed income instruments

- a. Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies
- b. Obligations of U.S. and foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
- c. Mortgage-backed and asset-backed securities, including CMBS, mortgage TBA’s, and other MBS derivatives, including CMO’s, REMICS, IO’s, and PO’s
- d. CBO’s, CLO’s, and CDO’s
- e. Obligations of international agencies, supranational entities, and foreign governments (or their subdivisions or agencies), as well as foreign currency linked securities, warrants, preferred stocks and forward contracts.
- f. Obligations issued or guaranteed by U.S. local, city and state governments and agencies
- g. Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments

- a. US Treasury and Agency bills and notes
- b. Certificates of deposit
- c. Bankers acceptances

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- d. Commercial paper
 - e. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
 - f. Eurodollar CD's, TD's, and commercial paper
 - g. US and Eurodollar floating rate notes
 - h. Money market funds managed by the Custodian
 - i. Short Term Investment Pool (STIP), managed by the Chief Investment Officer
3. Fixed income derivatives
- a. US Treasury, Agency, and Eurodollar futures
 - b. Interest rate options, swaps, and swaptions
 - c. Credit default swaps (CDS) and their derivatives
 - d. Foreign currency forward contracts and options
 - e. Inflation linked futures and swaps
 - f. Total rate of return swaps

e. Restrictions

The Managers may **not**

- ~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~Purchase equity securities (other than preferred stock) or commodities or their derivatives~~
- ~~Buy party in interest securities~~
- ~~Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~
- ~~Purchase or sell foreign exchange contracts for any purpose other than hedging their portfolio exposures~~

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than 10% of the Program's investments, measured by market value, should be below "investment grade", i.e. rated lower than the following standards or their equivalent by all major NRSRO's
 - Standard & Poor's and Fitch (BBB-)
 - Moody's (Baa3)
 - Commercial Paper must have a rating of at least A-1, P-1, D-1, or F-1

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- The Program's investments should exhibit an average credit quality of A (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSRO's
- Except for securities issued by the US Treasury or Agencies of the US Government, no more than 3% of the Program's market value may be invested in any single issuer.
- **Liquidity risk**
 - No more than 20% of the Program's market value may be invested in Private Placements or Rule 144A securities.
 - The Program's investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Foreign exchange risk**
 - No more than 10% of the Program market value can be invested in securities denominated in currencies other than US dollar.
- **Asset allocation risk**
 - The Program's investments in aggregate may overweight or underweight Core sectors so that the Core sector contribution to portfolio effective duration is within +/- 50% of the corresponding Benchmark core sector contribution to portfolio effective duration. [Core sectors are defined as Government Sponsored, Credit, and Collateral.]
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~Managers may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

~~3. — Evaluation and Review~~

~~a. — Policy and Guideline Review~~

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. A performance attribution explaining differences in sector weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- ~~b. If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- ~~c. A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. A quarterly review of portfolio and strategy performance including a market outlook~~
- ~~e. An annual statement of compliance with investment guidelines~~

~~5. Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7F

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**CORE FIXED INCOME
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Core Fixed Income allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in US dollar denominated bonds which exceeds the return on the aggregate US fixed income market, as measured by the Barclays Capital US Aggregate Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by the Chief Investment Officer’s internal fixed income staff, and may be supplemented by hiring multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each Manager’s strategy will focus on a subset of the broad fixed income market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all fixed income portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 100 basis points. Each Manager will have a unique active risk budget, relative to its style benchmark,

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which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

~~e. Other Constraints and Considerations~~

~~Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~

~~Managers shall act solely in the interest of the Fund's constituents.~~

~~Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, investment grade fixed income instruments, notes and debentures denominated in U.S. dollars.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions as noted below in general asset class and manager guidelines~~section 2c and 2d~~. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, ~~subject to the restrictions in 2c. and 2d. below.~~

1. Fixed income instruments

- a. Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies
- b. Obligations of U.S. and foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
- c. Mortgage-backed and asset-backed securities, including CMBS, mortgage TBA's, and other MBS derivatives, including CMO's, REMICS, IO's, and PO's
- d. CBO's, CLO's, and CDO's
- e. Obligations of international agencies, supranational entities, and foreign governments (or their subdivisions or agencies), as well as foreign currency linked securities, warrants, preferred stocks and forward contracts.
- f. Obligations issued or guaranteed by U.S. local, city and state governments and agencies
- g. Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments

- a. US Treasury and Agency bills and notes
- b. Certificates of deposit
- c. Bankers acceptances

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- d. Commercial paper
 - e. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
 - f. Eurodollar CD²s, TD²s, and commercial paper
 - g. US and Eurodollar floating rate notes
 - h. Money market funds managed by the Custodian
 - i. Short Term Investment Pool (STIP), managed by the Chief Investment Officer
3. Fixed income derivatives
- a. US Treasury, Agency, and Eurodollar futures
 - b. Interest rate options, swaps, and swaptions
 - c. Credit default swaps (CDS) and their derivatives
 - d. Foreign currency forward contracts and options
 - e. Inflation linked futures and swaps
 - f. Total rate of return swaps

e. ~~Restrictions~~

~~The Managers may not~~

- ~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~Purchase equity securities (other than preferred stock) or commodities or their derivatives~~
- ~~Buy party in interest securities~~
- ~~Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~
- ~~Purchase or sell foreign exchange contracts for any purpose other than hedging their portfolio exposures~~

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-~~20~~50%.
- **Credit risk**
 - No more than ~~40~~15% of the Program's investments, measured by market value, should be below "investment grade", i.e. rated lower than the following standards or their equivalent by all major NRSRO²s
 - Standard & Poor's and Fitch (BBB-)
 - Moody's (Baa3)
 - Commercial Paper must have a rating of at least A-1, P-1, D-1, or F-1

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- The Program's investments should exhibit an average credit quality of A₊ (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSRO's
- Except for securities issued by the US Treasury or Agencies of the US Government, no more than 3% of the Program's market value may be invested in any single issuer.
- **Liquidity risk**
 - No more than 20% of the Program's market value may be invested in Private Placements or Rule 144A securities.
 - The Program's investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Foreign exchange risk**
 - No more than 10% of the Program market value can be invested in securities denominated in currencies other than US dollar.
- **Asset allocation risk**
 - The Program's investments in aggregate may overweight or underweight Core sectors so that the Core sector contribution to portfolio effective duration is within +/- 50% of the corresponding Benchmark core sector contribution to portfolio effective duration. [Core sectors are defined as Government Sponsored, Credit, and Collateral.]
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~Managers may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

~~3. — Evaluation and Review~~

~~a. — Policy and Guideline Review~~

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~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. A performance attribution explaining differences in sector weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- ~~b. If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- ~~c. A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. A quarterly review of portfolio and strategy performance including a market outlook~~
- ~~e. An annual statement of compliance with investment guidelines~~

~~5. Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7G

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~May 6, 2009~~ November 15, 2012

**TIPS (TREASURY INFLATION PROTECTED SECURITIES)
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the TIPS allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in US Government issued, dollar denominated, inflation protected bonds which exceeds the return on the Barclays ~~Capital~~ US TIPS Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be managed by the Chief Investment Officer’s internal fixed income staff (“Manager”). The Chief Investment Officer will monitor whether the Program adheres to these Guidelines, and in particular achieves the performance and risk objectives stated below.

c. Performance Objectives

The performance objective of the Program is to exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 200 basis points.

e. ~~Other Constraints and Considerations~~

- ~~• Manager shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Manager shall act solely in the interest of the Fund’s constituents.~~
- ~~• Implementation of this Program shall comply with the Fund’s Policy.~~

2. Investment Guidelines

a. Asset Allocation / Types of Securities

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions as noted in general asset class and manager guidelines, below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, ~~subject to the restrictions in 2c. and 2d. below.~~

1. Fixed income instruments
 - a. US Treasury Inflation Protected Securities
 - b. US Treasury nominal bonds and notes
 - c. Non-US sovereign inflation linked bonds (G10 countries only)
 - d. Corporate issued inflation linked bonds
2. Short term fixed income instruments
 - a. US Treasury bills and notes
 - b. Money market funds managed by the Custodian
 - c. Short Term Investment Pool (STIP), managed by the Chief Investment Officer
3. Fixed income derivatives
 - a. US Treasury and Eurodollar futures
 - b. Foreign currency forward contracts and options
 - c. Inflation linked futures and swaps
 - d. Total rate of return swaps

~~b. — Restrictions~~

~~The Manager may not~~

~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~

~~Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~

~~Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~

~~Purchase equity securities or commodities or their derivatives~~

~~Buy party in interest securities~~

~~Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~

~~Employ leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~

~~Purchase or sell foreign exchange contracts for any purpose other than hedging their portfolio exposures~~

be.: Diversification and Concentration

The Program’s investments will be appropriately diversified to control overall risk. The Program’s investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than 10% of the Program's investments, measured by market value, may be issued by non-sovereign issuers
 - No more than 3% of the Program's market value may be invested in any single non-sovereign issuer
- **Foreign exchange risk**
 - No more than 10% of the Program market value may be invested in securities denominated in currencies other than US dollar
 - All securities denominated in currencies other than US dollar must be currency hedged back to US Dollar

d. Managing Cash Flows

~~Manager may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

3. Evaluation and Review

a. Policy and Guideline Review

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program.~~

4. Reporting

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. A summary of Program investments and risks.~~
- ~~b. A summary of Program performance, on an absolute and benchmark relative basis.~~

~~Manager will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. Monthly accounting statements showing portfolio income, holdings and transactions~~
- ~~b. Quarterly review of portfolio and strategy performance including a market outlook~~
- ~~c. Annual statement of compliance with investment guidelines~~

5. Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7H

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**NON DOLLAR DENOMINATED FIXED INCOME
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Non Dollar Denominated Fixed Income allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in Non-US dollar denominated bonds which exceeds the return on the Non Dollar denominated global fixed income market, as measured by the Citigroup World Government Bond–ex U.S Index. (“Benchmark”), while maintaining risk similar to that of the Benchmark. The Benchmark shall be unhedged. (See part (e) below.)

b. Investment Strategy

The Program shall be implemented by a combination of the Chief Investment Officer’s internal fixed income staff and multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each Manager’s strategy will focus on a subset of the Non US dollar denominated fixed income market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all Non US dollar denominated fixed income portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, (benchmark), which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

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The Program shall be managed so that its annualized tracking error budget shall be 200 basis points. Each Manager will have a unique active risk budget, relative to its specific benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. Currency Risk

The Committee accepts that as a US dollar denominated investor, investing in Non US dollar denominated bonds implicitly involves currency risk. The Committee accepts this additional risk or volatility as part of the asset class and has adopted an “unhedged” performance benchmark. An unhedged benchmark is a benchmark in which the underlying securities’ returns are translated from their local currency back to US dollars at each measurement date.

However, this general policy toward currency risk shall not prevent individual Managers from fully or partially hedging or otherwise actively managing the currency risk in their portfolios (subject to their individual guidelines). Nor shall it prevent the Chief Investment Officer from employing currency overlay managers to manage the currency risk of the aggregate portfolio.

The contribution to active risk resulting from the aggregate of active currency management, whether by Managers or by the Chief Investment Officer’s overlay managers, shall be included in the total tracking error and be subject to limitations above and to the Retirement Fund’s overall risk budget as described in Appendix 2.

f. Other Constraints and Considerations

- Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.
- Managers shall act solely in the interest of the Fund’s constituents.
- Implementation of this Program shall comply with the Fund’s Policy.

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, investment grade fixed income instruments, notes and debentures issued by developed market countries other than the U.S. and denominated in currencies other than U.S. dollars.

Nothing in these guidelines shall be construed to restrict the use of diversified global fixed income strategies (consisting of bonds denominated in both US and Non-US currencies). The Chief Investment Officer shall ensure that such strategies are consistent with both these guidelines and the guidelines of the other fixed income Programs, and may develop separate guidelines for such strategies to ensure that performance and risk objectives for all fixed income classes are met.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions as noted in general asset class and manager guidelines below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, ~~subject to the restrictions in 2c. and 2d. below.~~

1. Fixed income instruments
 - a. Obligations of foreign governments (or their subdivisions or agencies), international agencies, and supranational entities
 - b. Obligations of U.S. and foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
 - c. Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies
2. Short term fixed income instruments
 - a. US dollar and foreign currencies
 - b. Short term obligations of US and foreign governments
 - c. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
 - d. Eurodollar CD’s and Eurodollar floating rate notes
 - e. Money market funds managed by the Custodian
 - f. Short Term Investment Pool (STIP), managed by the Chief Investment Officer
3. Currency and Fixed income derivatives
 - a. Government bond and other bond index futures
 - b. Interest rate options, swaps, and swaptions
 - c. Single name or basket Credit default swaps (CDS)
 - d. Foreign currency forward contracts and options
 - e. Total rate of return swaps

~~c. — Restrictions~~

~~The Managers may not~~

~~Purchase securities of tobacco related companies, as per the Policy, section 5b.~~

~~Purchase currencies (or bonds denominated in currencies) not freely convertible to US dollars~~

~~Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~

~~Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~

~~Purchase equity securities or commodities or their derivatives~~

~~Buy party in interest securities~~

~~Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~

~~Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~

cd. Diversification and Concentration

The Program’s investments will be appropriately diversified to control overall risk. The Program’s investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

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- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than 10% of the Program's investments, measured by market value, should be below "investment grade", i.e. rated lower than the following standards or their equivalent by all major NRSRO's
 - Standard & Poor's and Fitch (BBB-)
 - Moody's (Baa3)
 - The Program's investments should exhibit an average credit quality of A (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSRO's
 - Except for securities issued by the US Treasury or sovereign entities included in the benchmark, no more than 3% of the Program's market value may be invested in any single issuer.
- **Liquidity risk**
 - The Program's investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Foreign exchange risk**
 - No more than 20% of the Program market value can be invested in securities denominated in currencies other than currencies included in the Benchmark
 - No more than 20% of the Program's net foreign exchange exposure (inclusive of currency overlay managers) can be in currencies not included in the Benchmark
- **Asset allocation risk**
 - The Program's investments in aggregate may overweight or underweight currencies so that each currency's exposure is within +/- 20 percentage points of the corresponding Benchmark currency's exposure for Euro and Yen denominated bonds, and is within +/- 10 percentage points of the corresponding Benchmark currency's exposure for all other currency denominated bonds, including US Dollar. That is, if Euro denominated bonds contribute 50% of the Benchmark, then the Program's Euro bonds exposure should be between 30% and 70%.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

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f. Managing Cash Flows

~~Managers may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

3. Evaluation and Review

a. Policy and Guideline Review

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4. Reporting

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. A performance attribution explaining differences in country and currency weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly.~~
- ~~b. If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.~~
- ~~c. A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. A quarterly review of portfolio and strategy performance including a market outlook.~~
- ~~e. An annual statement of compliance with investment guidelines.~~

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INVESTMENT POLICY STATEMENT**

5. — ~~Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7I

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**HIGH YIELD DEBT
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the High Yield Debt allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in high yield US dollar denominated debt which exceeds the return of the non-investment grade fixed income market, as measured by the Merrill Lynch High Yield Cash Pay Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by a combination of the Chief Investment Officer’s internal fixed income staff and multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each Manager’s strategy will focus on a subset of the high yield debt market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all high yield debt portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, (benchmark), which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 350 basis points. Each Manager will have a unique active risk budget, relative to its specific

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benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

~~e. Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, non-investment grade debt instruments, notes and debentures denominated in U.S. dollars.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions as noted in general asset class and manager guidelines below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, subject to the restrictions in 2c. and 2d. below general asset class and manager guidelines.

1. Fixed income instruments

- Obligations of U.S. and foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
- Obligations of international agencies, supranational entities, and foreign governments (or their subdivisions or agencies).
- Obligations issued or guaranteed by U.S. local, city and state governments and agencies
- Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments

- US Treasury and Agency bills and notes
- Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
- Money market funds managed by the Custodian
- Short Term Investment Pool (STIP), managed by the Chief Investment Officer

3. Fixed income derivatives

- US Treasury, Agency, and Eurodollar futures
- Interest rate options, swaps, and swaptions
- Credit default swaps (CDS) and their derivatives
- Total rate of return swaps

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

e. Restrictions

The Managers may **not**

- ~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~Sell securities short, except for interest rate futures and options, credit default swaps, and foreign currency forwards and options~~
- ~~Purchase equity securities or commodities or their derivatives~~
- ~~Buy party in interest securities~~
- ~~Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~
- ~~Purchase or sell foreign exchange contracts for any purpose other than hedging their portfolio exposures~~

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted spread duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than 10% of the Program's investments, measured by market value, should be rated "in default", i.e. rated lower than the following standards or their equivalent by all major NRSROs
 - Standard & Poor's and Fitch (C)
 - Moody's (C)
 - The Program's investments should exhibit an average credit quality of B- (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSRO's
 - Except for securities issued by the US Treasury or Agencies of the US Government, no more than 5% of the Program's market value may be invested in any single issuer.
- **Liquidity risk**
 - No more than ~~30~~50% of the Program's market value may be invested in Private Placements ~~or Rule 144A securities~~.
 - The Program's investments in aggregate of any marketable security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Foreign exchange risk**
 - No more than 10% of the Program market value can be invested in securities denominated in currencies other than US dollar

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- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~Managers may use derivatives for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

~~3. — Evaluation and Review~~

~~a. — Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. — Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. — Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. — A performance attribution explaining differences in sector and quality weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. — A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. — A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

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~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. — A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- ~~b. — If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- ~~c. — A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. — A quarterly review of portfolio and strategy performance including a market outlook~~
- ~~e. — An annual statement of compliance with investment guidelines~~

~~5. — Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7J

This version: ~~Approved November 15, 2012; effective January 1, 2013~~ May 12, 2016
Last approved: ~~July 1, 2008~~ January 1, 2013

**EMERGING MARKET DEBT
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Emerging Market Debt allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in debt of issuers in emerging market countries which exceeds the return on the Benchmark, which is the J.P. Morgan Emerging Markets Bond Index – Global Diversified [hard currency], while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by a combination of the Chief Investment Officer’s internal fixed income staff, and multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each Manager’s strategy will focus on a subset of the emerging market debt universe in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all emerging market debt portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, (benchmark), which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 500 basis points. Each Manager will have a unique active risk budget, relative to its specific

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

~~e. Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, fixed income instruments, notes and debentures issued by emerging market sovereign or corporate issuers, denominated in U.S. dollars and issuers' local currencies.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions noted below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of "allowable" investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents' Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, subject to the restrictions in 2c. and 2d. below.

1. Fixed income instruments

- a. Obligations of foreign governments (or their subdivisions or agencies), international agencies, and supranational entities.
- b. Obligations of foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
- c. Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments

- a. US Treasury and Agency bills and notes
- b. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
- c. Eurodollar CD's, TD's, and commercial paper
- d. US and Eurodollar floating rate notes
- e. Money market funds managed by the Custodian
- f. Short Term Investment Pool (STIP), managed by the Chief Investment Officer

3. Fixed income derivatives

- a. US Treasury, Agency, and Eurodollar futures
- b. Interest rate options, swaps, and swaptions

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- c. Credit default swaps (CDS) and their derivatives
- d. Foreign currency forward contracts and options
- e. Total rate of return swaps

e. Restrictions

The Managers may ~~not~~:

- ~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~Sell securities short, except for interest rate futures and options, credit default swaps, and foreign currency forwards and options~~
- ~~Purchase equity securities or commodities or their derivatives~~
- ~~Buy party in interest securities~~
- ~~Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than ~~20~~50% of the Program's investments, measured by market value, should be rated "B+" (or equivalent) or below by all major NRSRO's
 - Standard & Poor's and Fitch (B+)
 - Moody's (B1)
 - The Program's investments should exhibit an average credit quality of BB (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSRO's
 - Except for securities issued by the US Treasury or sovereign entities included in the Benchmark, no more than 5% of the Program's market value may be invested in any single issuer, without a written exception approved by the Chief Investment Officer.
- **Liquidity risk**
 - The Program's investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Asset allocation and Foreign currency risk**
 - The Program's investments in aggregate may overweight or underweight issuer countries (including their currencies) so that each country's exposure is within +/- 20 percentage points of the corresponding Benchmark country's exposure.

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That is, if Brazilian bonds (including currency) comprise 20% of the total Benchmark, then the Program's Brazilian bond and currency exposure should be between 0% and 40%.

- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

e. Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.

f. Managing Cash Flows

Managers may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)

3. Evaluation and Review

a. Policy and Guideline Review

The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.

b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.

4. Reporting

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- a. A performance attribution explaining differences in country weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.
- b. A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.

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- c. A summary of individual Manager performance, on an absolute and benchmark relative basis.

Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- a. A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly.
- b. If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.
- c. A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.
- d. A quarterly review of portfolio and strategy performance including a market outlook.
- e. An annual statement of compliance with investment guidelines.

5. Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA RETIREMENT PLAN
INVESTMENT POLICY STATEMENT**

APPENDIX 7K

This version: November 15, 2012

Last approved: September 10, 2009

**SHORT TERM INVESTMENT POOL (STIP)
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the University’s Short Term Investment Pool, or STIP (“Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Background:

The STIP is a cash investment pool established by The Regents and is available to all University groups, including retirement and endowment funds. The STIP allows fund participants to maximize income on their short-term cash balances by taking advantage of the economies of scale of investing in a larger pool and investing in a broader range of maturities.

b. Investment Objective

The Objective of the Program is to maximize returns consistent with safety of principal, liquidity, and cash flow requirements. The primary investment objective is to generate income from investments in short duration US dollar denominated bonds and cash equivalents. Because the liquidity needs of the University are subject to large and uncertain changes, the fund may materially increase its investments in highly liquid, cash equivalent securities from time to time.

Accordingly, the Benchmark will be a weighted average of the income return on a constant maturity two (2) year Treasury note and the return on US 30 day Treasury Bills. The weights for the two constituents will be the actual average weights of the bond and cash equivalent components of the pool. The Benchmark will be re-balanced monthly.

c. Investment Strategy

The Program shall be implemented by the Chief Investment Officer internal fixed income staff (“Manager”). The Chief Investment Officer will monitor the Program’s adherence to these Guidelines.

d. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees.

e. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 75 basis points.

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f. Other Constraints and Considerations

- Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.
- Manager shall act solely in the interest of the Fund's owners.
- Implementation of this Program shall comply with the Fund's Policy.

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, investment grade short term fixed income instruments, notes and debentures denominated in U.S. dollars.

b. Types of Securities

The Program will be invested in a diversified portfolio of fixed income securities, subject to restrictions noted below in section 2c and 2d.

The following list is indicative of the investment classes which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of "allowable" asset types. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents' Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, subject to the restrictions in 2c. and 2d. below.

1. Fixed income instruments

- a. Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies
- b. Obligations of U.S. and foreign corporations such as corporate bonds, notes and debentures, and bank loans
- c. Mortgage-backed and asset-backed securities
- d. Obligations of international agencies, supranational entities, and foreign governments (or their subdivisions or agencies)
- e. Obligations issued or guaranteed by U.S. local, city and state governments and agencies
- f. Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments (having maturity of less than 13 months)

- a. US Treasury and Agency bills and notes
- b. Certificates of deposit
- c. Bankers acceptances
- d. Commercial paper
- e. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
- f. Eurodollar CD's, TD's, and commercial paper
- g. US and Eurodollar floating rate notes
- h. Money market funds managed by the custodian

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c. Restrictions

The following security types are **not** permitted:

- Interest rate derivative contracts, including options and futures
- Equity like securities, including but not limited to convertible bonds, preferred stocks, warrants, equity linked notes, and commodities
- Bonds issued in currencies other than US Dollar
- Foreign currency linked notes

The Manager may **not**:

- Purchase securities of tobacco related companies, as per the Policy, section 5b.
- Invest in mutual funds or group trusts unless specifically allowed in its guidelines
- Buy securities on margin
- Sell securities short
- Buy party-in-interest securities
- Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted
- Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy
- Purchase or sell foreign exchange contracts

d. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - No security may have a maturity of more than 5 ½ years
- **Credit risk**
 - No more than 5% of the Program's investments, measured by market value, should be below "investment grade", i.e. rated lower than the following standards or their equivalent by all major NRSRO's
 - Standard & Poor's and Fitch (BBB-)
 - Moody's (Baa3)
 - Commercial Paper must have a rating of at least A-1, P-1, D-1, or F-1
 - The Program's investments should exhibit an average credit quality of A (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSRO's
 - No more than 5% of the Program's allocation to commercial paper may be invested in any single issuer. This guideline may be exceeded on a temporary basis due to unusual cash flows, up to a limit of 10%, for a period not to exceed one month.
 - Except for securities issued by the US Treasury or Agencies of the US Government, no more than 3% of the Program's market value (exclusive of commercial paper) may be invested in any single issuer.
- **Liquidity risk**
 - No more than 10% of the Program's market value may be invested in Private Placements or Rule 144A securities

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- The Programs' investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.

Subject to the limitations above, the investment manager has complete discretion with regard to choosing sector weights, issuers, and maturities.

- e. Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.

3. Evaluation and Review

a. Policy and Guideline Review

The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.

- b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the Objectives of the Program and individual Managers.

4. Reporting

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- a. A summary of Program investments and risks.
- b. A summary of Program performance, on an absolute and benchmark relative basis.

Manager will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- a. Monthly accounting statements showing portfolio income, holdings and transactions.
- b. Quarterly review of portfolio and strategy performance including a market outlook.
- c. Annual statement of compliance with investment guidelines.

5. Definitions: See Appendix 8

UNIVERSITY OF CALIFORNIA RETIREMENT PLAN INVESTMENT POLICY STATEMENT

APPENDIX 7L

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~April 1, 2014~~ November 15, 2012

PRIVATE EQUITY INVESTMENT GUIDELINES

The purpose for portfolio guidelines is to clearly define performance objectives and to control risk. Portfolio guidelines to control risk should be subject to ongoing review.

Performance Objectives:

The objective of the private equity portfolio is to earn a return, after adjusting for risk, that exceeds the Russell 3000 Index return on a consistent basis over time.

Portfolio Guidelines:

1. Permissible investments include limited liability structures such as limited partnerships, limited liability corporations, and other vehicles that invest in venture capital, buyouts, and special situations. Permissible investments will be primarily private market assets, but may include publicly traded assets, and may also include funds of funds, secondaries, co-investments and direct equity investments.
2. Venture Capital investments shall be limited to a maximum of 40 percent of the private equity portfolio's total market value, with a long-term target weight of no more than 20 percent.
3. No single partnership commitment (including co-investments / direct equity investments) can represent, at the time of commitment, more than 5 percent of the current private equity allocation defined as the most recent quarter book value plus unfunded commitments plus target commitment for the current (one) year.
4. Investment in multiple funds of the same general partner is permitted. However, the total commitment to partnerships with the same general partner (including co-investments / direct equity investments), at the time of commitment, cannot exceed 15 percent of the budgeted three year private equity allocation defined as current book value plus unfunded commitments plus commitment level for the current year and two subsequent years.
5. The commitment to any individual partnership is recommended not to exceed 30 percent of the total capital raised by the partnership, up to a maximum of \$150 million. The maximum of 30 percent represents the ownership percentage of the partnership at each closing. Exceptions to this limitation may be made by the Chief Investment Officer.
6. The private equity portfolio should be diversified across time as well.
7. No single co-investment or direct investment company can represent, at the time of commitment, more than \$200 million at cost. ~~No single co-investment in the General Endowment Pool can represent, at the time of commitment, more than \$100 million at cost.~~

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8. Use of derivative securities by individual investment managers must be specified in writing in the manager's guidelines and must be consistent with the Derivatives Policy, Appendix 4.

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APPENDIX 7M

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~April 1, 2014~~ November 15, 2012

PRIVATE REAL ESTATE INVESTMENT GUIDELINES

The purpose of the real estate investment guidelines is to define the investment objectives, philosophy, and specific guidelines for making investments and the benchmarks to measure performance.

~~These guidelines are applicable to the entire real estate program (“Program”) consisting of investments made on behalf of the UCRP and GEP funds. The allocation of investments between the two funds will be managed by the Chief Investment Officer in accordance with the performance and risk objectives of those funds.~~

Allocations and ranges for the ~~four~~ principal strategies are shown below.

Strategic Allocations		
Strategy	Allocation	Range
REITS	10%	5% -20%
Core Real Estate	30%	10%-80%
Value-Added Strategies	30%	10%-50%
Opportunistic Strategies	30%	10%-40%
Total	100%	

Core Real Estate, Value Added Strategies, and Opportunistic Strategies constitute “Private Real Estate.” Value Added and Opportunistic strategies together are referred to as “Non-Core.” ~~REITS are discussed in the section “Public Real Estate Securities (Appendix 7N).” The term “Program” will be interpreted in the context of private or public real estate.~~

Investment Guidelines

1. The benchmark for evaluating the Program’s investment performance will be the National Council of Real Estate Investment Fiduciaries (NCREIF) Funds Index – Open-end Diversified Core Equity Index (“NFI-ODCE”). The Program return is expected to meet or exceed this benchmark, on a rolling three year basis, after deducting all costs and expenses (“net returns”).
2. Investments shall be in limited liability investment vehicles such as limited partnerships, limited liability corporations, private REITs, and other commingled investment Funds. Direct investments through discretionary Separate Accounts may be made through title holding corporations.

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3. Investments shall be primarily equity-oriented, but may also include debt instruments secured by real estate.
4. Specific property types in the Program shall be within the following ranges:

Property Diversification Guidelines	
Property Type	Range
Office	20%-50%
Apartments	15%- 35 50%
Industrial	15%-35%
Retail	15%-35%
Hospitality	Up to 20%
Other (incl. student housing)	Up to 20 35%

5. Investments in the U.S. shall be diversified by geographic location as follows:
 - a. Exposure (current NAV) in any one NFI-ODCE region within the total Private program (commingled funds and separate accounts) not to exceed the weight of that region in the NFI-ODCE index by more than 5%.
 - b. Exposure (current NAV) in any one Metropolitan Statistical Area (or Metropolitan Statistical Division, if applicable) within the Separate Account portfolio not to exceed 20% of the Separate Account program allocation (“allocation” meaning: NAV + Unfunded Commitments).
6. Investments outside the U.S. may not represent more than 25% of the private real estate portfolio and at the portfolio level must be diversified by type and geographic location.
7. The Program’s investment in any one closed end fund shall not exceed 25% of the total capital being raised for that fund, up to a maximum of \$75 million.
8. No more than 15% of the Program’s commingled Fund Net Asset Value + Unfunded Commitments shall be invested with a single manager. No more than 25% of the Separate Account program allocation shall be invested with a single manager (“allocation” meaning: NAV + Unfunded Commitments).
9. The Program’s outstanding investment(s) with any given firm, including its affiliates and subsidiaries, may not exceed 20% of that firm’s total real estate equity under management.
10. In order to enhance the alignment of interests of the investor and the sponsor, the sponsor of a closed-end fund investment will be required to make a co-investment of at least 1%. This also applies prospectively to Separate Account managers, except where prohibited by law or regulation. Any exceptions must be approved by the Chief Investment Officer.
11. Leverage at the Program level shall not exceed 90% of the (gross) market value of the total assets of the Program. All leverage shall be non-recourse to the Regents, as trustee of UCRP, with respect to UCRP investments in the Program. ~~All leverage shall be non-recourse to the Regents, a public corporation, with respect to GEP investments in the Program.~~

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12. Letters of credit may be obtained or funding guarantees provided in favor of a lender in connection with the development and operation of a property managed by a Separate Account manager through a property title holding corporation owned by the Regents as trustee of UCRP, ~~or the Regents, a public corporation, with respect to GEP investments in the Program,~~ provided that such letter or guarantee does not encumber any assets other than those previously committed to such separate account to fund such investment.
13. The acquisition price of any single property or collective investment vehicle (portfolio of properties) shall not exceed 5% of the total Separate Account program long-term allocation (that is, Net Asset Value + Unfunded Commitments + unused capacity consistent with the long-term policy targets of Real Estate). The Chief Investment Officer may approve the acquisition of properties greater than 5% but less than 10% of the total Program allocation.
14. Fund of Fund investments are permitted
15. Club deals and co-investments, in aggregate, shall not exceed 15% of total Program market value, up to a limit of \$300 million for any single deal.

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INVESTMENT POLICY STATEMENT**

APPENDIX 7N

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~April 1, 2014~~ November 15, 2012

**PUBLIC REAL ESTATE SECURITIES
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Public Real Estate Securities allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in public real estate securities which exceeds the return on the global real estate securities market, measured by the FTSE EPRA NAREIT Global Index return (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the global real estate securities market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines. The Program return is expected to meet or exceed a weighted aggregate of these benchmarks, on a consistent basis over time, after deducting all costs and expenses.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 450 basis points. Each Manager will have a unique active risk budget, relative to its style

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benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. ~~Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity-related securities at all times. Any cash held by Managers of separate accounts for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivatives contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of real estate securities that are listed on national securities exchanges. Managers may also invest in stocks that are traded over-the-counter and in other real estate-related securities and private placements as limited in their guidelines. A real estate-related company is one in which the predominant share of EBITDA is derived from rental income and/or the equity ownership of real estate.

c. ~~Restrictions~~

~~The Managers may not~~

- ~~• Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~• Lend securities~~
- ~~• Purchase commodities or commodity derivatives~~
- ~~• Purchase fixed income securities except for cash equivalents used for facilitating transactions~~
- ~~• Buy party in interest securities~~
- ~~• Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~• Employ economic leverage in the portfolio through borrowing or derivatives~~

dc. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures. The following limitations apply:

- The Program's beta with respect to the Benchmark will not be significantly different from 1.0, as measured over the most recent 12 month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

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- The aggregate holdings within separate accounts of any security may not exceed 4.9% of that security's outstanding shares.

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.~~

~~3. — Evaluation and Review~~

~~a. — Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. — Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. — Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~A performance attribution explaining differences in sector weights and returns (property type and/or geographical sectors, as appropriate), between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~A summary of individual manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

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- a. ~~— A monthly performance statement for the portfolio (gross and net) and the benchmark, and provide the gross performance for the product Composite at least quarterly.~~
- b. ~~— If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non systematic ("residual") risk of the portfolio relative to the benchmark.~~
- c. ~~— A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- d. ~~— A quarterly review of portfolio and strategy performance including a market outlook.~~
- e. ~~— An annual statement of compliance with investment guidelines.~~

5. ~~— Definitions: See Appendix 8~~

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APPENDIX 70

This version: ~~November 15, 2012~~ May 12, 2016

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**ABSOLUTE RETURN (AR) STRATEGIES
INVESTMENT GUIDELINES**

The purpose of portfolio guidelines is to clearly define performance objectives, state the investment approach, and to control risk. Portfolio guidelines should be subject to ongoing review. A change in the allocation to the strategy or the Investment Committee's risk tolerance can be among the reasons for a guideline review.

Performance Objective:

The objective of the absolute return strategy (AR) portfolio is to earn an annualized return that exceeds the Performance Benchmark (below). The AR portfolio should also provide diversification benefits to the overall portfolio by offering returns that exhibit moderate correlation to the performance of other asset classes. The portfolio shall be composed of absolute return and market directional type strategies.

Portfolio Performance Benchmark

The performance benchmark is ~~a weighted combination of 50% times the return of the HFRX-Absolute Return Strategies Index plus 50% times the return of the HFRX Market Directional Index.~~

Portfolio Guidelines

1. Permissible investments include vehicles that invest primarily in Long/Short strategies (including U.S., dedicated Non-U.S., short bias, and global equities), Relative Value strategies (including equity market neutral, convertible bond arbitrage, relative value credit, and fixed income), Event Driven strategies (including distressed securities, special situations, and risk arbitrage strategies), and Opportunistic strategies (including macro, CTA and portfolio hedge).
2. Investments may be made in vehicles that invest in single or multiple strategies.
3. Investments may be made in a variety of vehicle structures, which may include: separate accounts, funds-of-one, comingled hedge funds, funds of hedge funds, and drawdown structures.
4. Policy ranges for the strategies are:

	<u>Range</u>
Long/Short Equity	40 -50%
Event Driven	10-50%
Relative Value	10-50%
Opportunistic	10-50%

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5. No investment with any single manager can represent more than ~~40~~20% of the AR portfolio.
6. Gross accounting leverage at the aggregate portfolio level shall not exceed 4.5 times the market value of the total AR assets. No more than ~~25~~30% of the portfolio may be invested in managers who use on average more than ~~4.5~~6.5 times gross accounting leverage.
Recognizing the illiquidity of these investments, these constraints should guide the execution of the AR program, but may be exceeded temporarily between rebalancing. All leverage shall be non-recourse to the Regents, as trustee of UCRP, with respect to UCRP investments in the Program. ~~All leverage shall be non-recourse to the Regents, a public corporation, with respect to GEP investments in the Program.~~
7. The Chief Investment Officer may not incur debt to leverage the AR portfolio; however, portable alpha strategies are permitted.
8. No more than 15% of the total AR portfolio forecast risk may be derived from any single manager.
9. Total AR portfolio forecast risk shall be maintained at a level of no more than 8.0% of total invested capital.

[Definition] Gross Accounting Leverage: the ratio of the sum of the absolute values of the long and short exposures of a portfolio divided by the net market value of the total portfolio. Gross accounting leverage of the AR portfolio is the sum of the individual manager leverage ratios, weighted by their market values.

[Definition] Forecast Risk: the volatility of forecast returns, as measured by annualized standard deviation. Forecast risk is calculated using a factor based risk model, which decomposes each AR portfolio investment's forecast risk into forecast systemic factor exposures and forecast residual risks, making adjustments for strategy evolution and various liquidity and valuation related considerations.

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APPENDIX 7P

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~April 1, 2010~~ November 15, 2012

REAL ASSETS INVESTMENT GUIDELINES

The purpose of these investment management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives, and to control risk within the Real Assets portfolio (“Portfolio”). These guidelines shall be subject to ongoing review.

These Guidelines are applicable to the entire Portfolio consisting of investments made on behalf of the UCRP and GEP (“the Funds”). The allocation of investments between the Funds will be managed by the Chief Investment Officer in accordance with the respective performance and risk objectives of the Funds.

Strategic Objective

The Portfolio shall be managed with the objective of preserving capital while maximizing the risk-adjusted returns of the Funds through income generation and long-term capital appreciation, enhancing diversification, and hedging against inflationary risks.

Performance Objective

The primary performance objective of the Portfolio is to generate annualized net-of-fee returns, after adjusting for risk, which exceeds the return of the Performance Benchmark on a consistent basis over time.

Performance Benchmark

The Committee has adopted the following performance benchmarks for each of the underlying strategies within the Portfolio:

<u>Strategy</u>	<u>Benchmark</u>
Timberland	IRR-Based Benchmark
Energy	IRR-Based Benchmark
Infrastructure	IRR-Based Benchmark
Commodities	S&P GSCI Reduced Energy Index
Opportunistic	IRR-Based Benchmark

Investment Guidelines

1. Investments shall be made through limited liability structures such as limited partnerships, limited liability corporations, and other vehicles. Permissible investments shall include but are not limited to funds, funds-of-funds, secondaries, co-investments and direct investments, and may include both publicly traded and private market assets.

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2. The Portfolio shall adhere to the following ranges:

<u>Strategy</u>	<u>Allowable Ranges</u>	
	<u>Min</u>	<u>Max</u>
Timberland	0%	50%
Energy	0%	50%
Infrastructure	0%	50%
Commodities	0%	50%
Opportunistic	0%	50%
Total	-	-

3. No single partnership commitment (including co-investments / direct equity investments) can represent, at the time of commitment, more than 15% of the overall real assets allocation, defined as the most recent quarter book value plus unfunded commitments plus target commitment for the current (one) year.
4. No investment with any single investment manager or general partner can represent more than 20% of the overall Portfolio.
5. No investment with any single investment manager or general partner can exceed 30% of that manager's total assets under management, up to \$100 million. Exceptions to this limitation may be made by the Chief Investment Officer.
6. Investments in multiple vehicles managed by the same manager are permitted. However, the total commitment to these investments (including co-investments and direct equity investments), at the time of commitment, may not exceed 30% of the budgeted three-year allocation defined as current book value plus unfunded commitments plus approved commitment level for the current year and two subsequent years.
7. The Portfolio shall be diversified across time.
8. Use of derivative securities by individual investment managers must be specified in writing in the manager's guidelines and must be consistent with the Derivatives Policy, Appendix 4.

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APPENDIX 7Q

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~April 1, 2010~~ November 15, 2012

LIMITS ON THE SIZE OF INVESTMENTS WITH PUBLIC EQUITY AND FIXED INCOME MANAGERS

There are three broad reasons to limit the size of a management firm (“manager” or “product”) within an asset class: first, to reduce headline risk, second, to reduce business risk, and third, to reduce the potential for loss caused by the action of other investors in the product. Unlike investments in non-traditional asset classes, public equity and fixed income portfolios have greater transparency and liquidity, and assets are normally held by a trustee. Nevertheless, it is prudent to be mindful of the Fund’s exposure with individual investment management firms. To best accomplish these goals, this Policy will primarily be stated in terms of principles and objectives and secondarily in explicit rules.

Principles

1. The University of California Pension and Endowment funds (“UC”) desires to retain the freedom of action to make investment decisions without being unduly influenced by the actions of other investors.
2. UC desires to minimize circumstances where the size of its investments results in value impairment.

Objectives

1. Each asset class should be diversified across a group of products with sufficiently dissimilar processes to minimize the possibility of significant concentration in individual assets. This diversification should consider investment style, strategy, statistical characteristics, and cross-holding of actual holdings.
2. UC’s exposure to any single management firm /product should be limited such that an event which has a negative impact on all investors within the firm/product does not cause a *disproportional* negative impact on the value of UC’s investment. Thus the size of a prudent investment must also consider ownership concentration of the *remainder* of the firm /product’s assets.

Rules

1. Notwithstanding the above, no investment in a *single product* of a firm shall be more than 25% of the assets of that product, unless mitigating circumstances exist. Such an exception must be approved in advance by the Chief Investment Officer.
2. Portfolios managed by staff within the Office of the Chief Investment Officer are exempt from this Policy.

Definition: a *single product* is defined as (a) the strategy UC invests in plus (b) any other strategy managed by the same team in the same manner using similar benchmarks.

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APPENDIX 7R

This version: Approved March 14, 2013; effective April 1, 2013

OPPORTUNISTIC EQUITY INVESTMENT GUIDELINES

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Opportunistic Equity allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. ——— Investment Policy

Investment Objective

The investment objective of the Opportunistic Equity Strategy is to achieve net excess returns above the MSCI All Country World Index (MSCI ACWI) Net Dividends Index, herein referred to as the Benchmark. The Benchmark is unhedged.

Investment Strategy

The investment strategy is to outperform the benchmark emphasizing investing in public equities in a differentiated way. The strategy will have fewer constraints on the portfolio as a whole, and therefore will place fewer constraints on underlying managers. It will make greater use of nontraditional approaches toward investing in equities. Portfolio construction will be a core-satellite strategy as outlined below:

Core Strategies

The core portion of the investment strategy will consist of equity managers whose aggregate net long exposure will range between 75% and 125%. The core component will range from 50% to 100% of the market value of the Opportunistic Equity portfolio.

The Program may utilize strategies such as: 130/30 strategies, long-biased strategies, and global (rather than U.S., Non-U.S. Developed, or Emerging Market regional) equity strategies. These core strategies will have fewer constraints and be more benchmark, style, and sector agnostic than traditional equity strategies. These strategies may have a greater tendency to be more concentrated than the typical public equity manager.

Satellite Strategies

The satellite component of the investment strategy will consist of niche or unique investments. The aggregate net long exposure of the satellite component will range between 50% and 150%, so long as the net long exposure of the Opportunistic portfolio as a whole is 75% to 125%. The satellite component will range between 0% and 50% of the market value of the Opportunistic Equity portfolio.

The satellite component could include the following: activist strategies, tactical or directional strategies, long/short strategies, specialty strategies (such as global small cap, emerging market

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~~small cap, country or sector specialists, frontier markets, and thematic investing), “best ideas” strategies, and overlay strategies.~~

2. ~~Portfolio Construction~~

~~The construction of the Opportunistic Equity portfolio will consider the following attributes:~~

~~Diversification. The portfolio will be diversified in the number of stocks held, sector, country, and regional weights.~~

~~Differentiation. The portfolio will be constructed to ensure that there is significant differentiation relative to the benchmark and to traditional approaches toward investing in public equities. Differentiation will be achieved relative to traditional approaches to investing in public equity by using several (but not necessarily all) of the strategies listed in the section titled “Investment Strategy.” Differentiation relative to the benchmark will be achieved by maintaining a forecast active risk higher than what is typical for a long-only public equity portfolio.~~

3. ~~Investment Guidelines~~

~~The Opportunistic Equity portfolio is subject to the constraints noted below. During the implementation of the Opportunistic Equity strategy, compliance with some of these guidelines may not be required.~~

~~Active Risk Budget: The forecast active risk will be a range of 3-6% annualized standard deviation relative to the Benchmark.~~

~~Beta: The Program’s beta with respect to the Benchmark will typically range between 0.75 and 1.25 over a full market cycle.~~

~~Market Exposure: The portfolio’s net long equity exposure will range between 75% and 125%. The Opportunistic Equity portfolio will be invested in publicly traded stocks, including ETFs, ADRs, and other derivatives whose returns are derived from publicly traded stocks.~~

~~Managers may invest in private companies subject to limitations stated in their guidelines.~~

~~Non-equity securities are permitted subject to the above constraints on beta and equity exposure. Managers may obtain equity exposure through specialty funds, such as ETFs or commingled funds, subject to limitations in their guidelines.~~

~~Limits on the use of derivative instruments will be consistent with the Regents’ Derivatives Policy and will be specified in writing for each manager.~~

~~Fund-of-funds are permitted.~~

~~Investment in a single manager can represent no more than 15% of the market value of the Opportunistic Equity portfolio.~~

~~Investment in a single manager can represent no more than 25% of the forecast active risk of the Opportunistic Equity portfolio.~~

~~Country and Sector Weights: The portfolio will maintain allocations within plus or minus 15% to the U.S., Non-U.S. Developed Markets, and Emerging Markets, relative to the weights of those regions in the MSCI ACWI benchmark. The portfolio will also maintain sector weights within plus or minus 15% of the MSCI ACWI benchmark sector weights.~~

~~Policy ranges for the Opportunistic Equity portfolio are as follows:~~

~~Core component ————— 50-100%~~

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~~Satellite component—0-50%~~

~~Gross Exposures: The portfolio is prohibited from employing gross leverage in the aggregate portfolio in excess of 150% of the market value of the portfolio.~~

~~Portable alpha strategies are permitted; however, the Office of the Chief Investment Officer may not incur debt to leverage the portfolio.~~

~~Lock-Ups: The average lock-up period for the portfolio as a whole will not exceed one year.~~

~~Liquidity: A minimum of 65% of the Opportunistic Equity portfolio will offer redemptions in 90 days or less upon notification from U.C., subject to lock-up requirements.~~

~~Preliminary gross and net returns will be required within six days of month end. Final gross and net returns will typically be required within twenty days of month end.~~

4. Definitions

~~Active Risk: a measure of the difference between a portfolio or strategy and a benchmark. It takes into account the size, volatility of, and correlations between the various exposures and risk factors which differ between portfolio and benchmark.~~

~~Activist strategy: Activist managers acquire larger ownership stakes in companies in an effort to improve the business performance of the companies they are invested in or managed. Activism in this sense is not engaged in environmental or social investing; the emphasis here is to improve the business performance of specific companies.~~

~~Beta: the sensitivity of a portfolio to a benchmark, computed by regressing portfolio excess returns on benchmark excess returns from the same period. A beta of 1.0 indicates similar return variability as the benchmark. A beta of 1.2 (alternately, 0.80) indicates that for every 1% increase or decrease in the benchmark excess return, the portfolio's excess return increases or decreases by 1.2% (alternately, 0.8%).~~

~~Equity Exposure: the gross exposure to equity securities or securities underlying equity derivatives~~

~~Forecast active risk: an estimate of the active risk of a portfolio or strategy based on the forecast volatilities and correlations among the securities or risk factors held in the portfolio as of a given date~~

~~Frontier markets: Equity markets not included in MSCI All Country World Index; they are considered too new or undeveloped to be included in the Emerging Market Index~~

~~Gross dollar exposure is defined as the sum of the combined long exposures and the absolute value of the short exposures, including all physical and derivative securities positions.~~

~~Gross leverage: a term used to indicate that the gross dollar exposure of a portfolio exceeds the net market value of the total portfolio~~

~~Lock-up: the period of time after making an investment with a manager during which the investor may not withdraw or redeem any of the investment~~

~~Net dollar exposure (of a portfolio): the arithmetic sum of the dollar market values of all long (positive) and short (negative) positions in securities, plus the notional value of futures contracts, plus the dollar delta of options contracts.~~

~~Overlay strategy: a strategy intended to manage a specific risk factor, such as currency, of a group of accounts, each managed by a separate manager. The overlay is designed by comparing the aggregate (net) exposures of underlying managers and adjusting those exposures to a pre-determined risk profile, e.g., the currency profile of the Benchmark~~

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~~Portable alpha strategy: an investment strategy constructed to have zero market risk (beta). Being independent of both the direction and the magnitude of the market's movements, it represents the manager's skill in selecting investments. Elimination of the market risk can be accomplished by means of short selling and derivatives such as futures, swaps, and options.~~

~~Realized annualized active risk: the standard deviation of the monthly differences between the portfolio return and the benchmark return, using monthly returns over a given historical period, multiplied by the square root of 12.~~

~~Unhedged benchmark: a benchmark in which the underlying securities' returns are translated from their local currency back to US dollars at each measurement date.~~

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APPENDIX 7S

This version: Approved March 14, 2013; effective April 1, 2013

CROSS ASSET CLASS STRATEGIES INVESTMENT GUIDELINES

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Cross Asset Class allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. — Investment Policy

Investment Objective

The objective of the Cross Asset Class Strategies (CAC) portfolio is to earn an annualized return, net of all fees and expenses, that exceeds the Performance Benchmark. The performance benchmark will be a weighted average of the UCRP and GEP policy benchmarks, weighted by the asset values of the UCRP and GEP, rebalanced monthly. (See below for explanation.)

Investment Strategy

The Program will have the scope to integrate and leverage best ideas across all asset classes through the following key objectives:

Utilize Strategic Partners in channeling best alpha and tactical beta signals to inform the Chief Investment Officer’s asset allocation process

Create an innovation engine for new investment ideas

Enhance the potential for higher returns and diversification across the overall plan by successful integration of CAC ideas in the total plan.

Portfolio Guidelines

Permissible investments include funds that invest in all strategies within all geographies.

Examples include: global macro, CTA, selected portfolio hedges, Relative Value strategies, Event Driven strategies, currency strategies, volatility strategies, risk parity strategies, long only strategies, specialty strategies, and managed futures.

In the event of market dislocations and mispricing, CAC managers are also expected to develop timely investment innovations and products to allow the Chief Investment Officer to invest in niche or specialized strategies not specifically cited in the guidelines.

Investments may be made in funds that manage single or multiple strategies; however the mandate will generally seek to invest with core management entities which have capabilities across multiple strategies and geographies. This will provide the Chief Investment Officer with the ability to make timely investments in specific asset class strategies.

No investment (the net asset value of UC’s equity stake in a strategy) with any single manager can represent more than 33% of the CAC portfolio at time of investment, until such time that the CAC allocation (to UCRP or GEP) is greater than 6% of the total market value of UCRP or GEP, respectively. After that time, no investment with any single manager can represent more than 20% of the CAC portfolio at time of investment. Exceptions to this limit may be approved by the Chair of the Committee on Investments.

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~~No investment with an asset management firm may exceed 15% of that firm's total assets under management.~~

~~The Chief Investment Officer may not incur debt to leverage the CAC portfolio; however, portable alpha strategies are permitted.~~

~~No more than 50% of the total CAC portfolio risk budget may be derived from any single manager.~~

~~Gross accounting leverage at the aggregate portfolio level shall not exceed 2.0 times the market value of the total CAC assets. All leverage shall be non-recourse to the Regents, as trustee of UCRP, with respect to UCRP investments in the Program. All leverage shall be non-recourse to the Regents, a public corporation, with respect to GEP investments in the Program.~~

~~Note: During the initial implementation of an allocation within the plans, compliance with some of these guidelines may not be required. The Chief Investment Officer and Regent's investment consultants will monitor and inform the Committee as to the status of its compliance with these guidelines.~~

Definitions

~~Gross Accounting Leverage: the ratio of the gross dollar exposures of a portfolio divided by the net market value of the total portfolio.~~

~~Gross dollar exposure is defined as the sum of the combined long exposures and the absolute value of the short exposures, including all physical and derivative securities positions.~~

~~Gross accounting leverage of the Program is the sum of the individual manager leverage ratios, weighted by their market values.~~

~~Note on Benchmark Calculation: the performance benchmark for the CAC program is calculated as follows: (a) first compute the weighted average of all the asset class benchmarks within UCRP (and GEP), where the weights are the current policy allocations to each asset class, *excluding* CAC. (b) divide that weighted average by [100% – Percent allocation to CAC]. Then the total fund policy benchmark return (*including* CAC) is identical to the CAC benchmark return.~~

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APPENDIX 8

This Version: ~~November 15, 2012~~ May 12, 2016

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DEFINITIONS

1. Actively managed: that part of the assets of the Program in which securities are purchased in different proportions than in the Benchmark in the expectation of earning a greater return than would be earned by replicating the Benchmark portfolio (“passive” investing).
2. Annualized tracking error budget: the amount of active risk which represents a typical amount of benchmark deviation for a Manager or the Program. The budget is not an absolute limit, and market conditions may dictate whether a greater or lesser amount of benchmark deviation is appropriate. The risk budget is normally expressed in forecast terms, and is compared to realized risk as a principal metric of the stability of a strategy.
3. Beta: the sensitivity of a portfolio to a benchmark, computed by regressing portfolio excess returns on benchmark excess returns from the same period. A beta of 1.0 indicates similar return variability as the benchmark. A beta of 1.2 (alternately, 0.80) indicates that for every 1% increase or decrease in the benchmark excess return, the portfolio’s excess return increases or decreases by 1.2% (alternately, 0.8%).
4. Cash equivalents: cash or short-term fixed income securities and an average quality rating of at least A or equivalent.
5. CDO, CLO, CBO: Collateralized Debt, Loan, and Bond obligations, respectively.
6. CMBS: Commercial mortgage backed securities.
7. CMO: Collateralized mortgage obligation (MBS derivative with unique structured risk and return characteristics).
8. Counterparty: One party to a trade legally bound to make a good delivery or a good payment.
9. Credit default swap (CDS): a financial contract used to transfer the credit risk of a reference entity from one party (protection buyer) to another (seller). The protection buyer pays a premium to the protection seller, in exchange for a contingent payment following a credit event, such as defaults or bankruptcy.
10. Derivatives: financial contracts whose value is completely determined by the value of an underlying security.
11. Developed Markets: Countries which have achieved an advanced stage of economic development, whose securities markets have met certain standards for stability, and are included in one or more index provider’s Developed Markets indexes; to be distinguished from “Emerging Markets.”
12. Dollar delta (of an option): a measure of net dollar exposure of an option; defined to be the option’s notional value times the option’s delta.
13. Economic Leverage: in the context of portfolio management, is defined as a net dollar exposure to assets in excess of the dollar amount of invested capital as measured by current market value
14. Effective duration: a quantitative measure of the interest sensitivity of a fixed income instrument. It measures the approximate change in price of a security given a 100 basis point (one percentage point) change in the yield to maturity of the security.

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15. Emerging Markets: Countries at varying stages of economic development, whose securities markets have only recently met certain standards for stability, and are included in one or more index provider's Emerging Markets indexes; to be distinguished from "Developed Markets."
16. Equitizing cash: the process of purchasing equity derivatives for the purpose of maintaining equity exposure.
17. Equity related securities: includes, but is not limited to convertible securities, preferred securities, and equity warrants.
18. Eurodollar deposits: deposits issued in US dollars of foreign banks and foreign branches of US banks.
19. Forecast annualized tracking error: the forecast standard deviation of annual differences between the portfolio return and the benchmark return, based on the current holdings in a portfolio, and using a particular risk estimation methodology and system.
20. Global Equity Strategy: an investment mandate based on a global equity benchmark which includes equity securities of both U.S. and Non-US companies
21. Gross dollar exposure is defined as the sum of the combined long exposures and the absolute value of the short exposures, including all physical and derivative securities positions.
22. Gross leverage: a term used to indicate that the gross dollar exposure of a portfolio exceeds the net market value of the total portfolio
23. Hedging: the process of reducing the possibility for gain or loss over a specific future period by taking an opposite position, yet not altering the underlying portfolio structure.
24. IO, PO: Interest only and Principal only strips (CMO variety).
25. Leverage: in the context of asset class guidelines, means "economic leverage," not "gross leverage"
26. Management costs and fees: for the purpose of the Objective in Part 1, costs and fees shall refer only to those costs directly incurred by the Chief Investment Officer, either directly for this asset class or general office expenses allocated to it. It shall not include other University overhead or allocated indirect costs.
27. Net Dividends (with respect to a performance benchmark / market index): a calculation of total return which approximates the minimum dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates. [definition from MSCI]
28. Net dollar exposure (of a portfolio): the arithmetic sum of the dollar market values of all long (positive) and short (negative) positions in securities, plus the notional value of futures contracts, plus the dollar delta of options contracts.
29. NRSRO: Nationally recognized statistical rating organization, such as Moody's or Standard and Poor's.
30. Overlay manager: a manager whose mandate is to manage a specific risk factor, such as currency, of a group of accounts, each managed by a separate manager. The overlay manager usually compares the aggregate (net) exposures of underlying managers and adjusts those exposures to a pre-determined risk profile, e.g., the currency profile of the Benchmark.

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31. Portfolio characteristics: attributes of a portfolio of securities, including but not limited to, weighted average market capitalization, weighted average dividend yield, weighted average price-earnings ratio, beta with respect to a benchmark, allocation among countries or geographical regions, sector weights, effective duration, credit quality.
32. Product Composite: the return on the weighted aggregate of all portfolios managed by an investment firm using a similar process; see the CFA Institute Performance Presentation Standards for further explanation.
33. Prudence Requirement: a requirement of anyone acting in the capacity of a fiduciary, that they act with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.
34. Realized annualized tracking error: the standard deviation of the monthly differences between the portfolio return and the benchmark return, using returns from the most recent 12 month period, multiplied by the square root of 12.
35. REMIC: Real estate mortgage investment conduit (CMO variety)
36. Repurchase agreement: Sale of a security with a commitment from the seller to buy back the security from the purchaser at a specified price at a designated future date. A repurchase agreement is a collateralized loan where the collateral is a security.
37. Separately managed account: an account entirely owned by The Regents of the University of California, as Fund trustee, for which investment policies and guidelines are determined jointly by the Chief Investment Officer and the manager.
38. Spread duration: a quantitative measure of the credit risk sensitivity of a fixed income instrument. It measures the approximate change in price of a security given a 100 basis point (one percentage point) change in the spread (over the Treasury curve) of the security.
39. Structured (levered) notes: securities where coupon or interest payments are leveraged, linked, or indexed to interest rates, index returns, foreign exchange rates, or other similar variables.
40. Unhedged benchmark: a benchmark in which the underlying securities' returns are translated from their local currency back to US dollars at each measurement date.
41. Barclays ~~Capital~~ US Aggregate Index: The U.S. Aggregate covers the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS, and CMBS. Issues are Market capitalization weighted. Securities must have a minimum maturity of one year to remain in the index. Securities must have a minimum quality investment grade by middle rating of Moody's, S&P, and Fitch.
42. Barclays ~~Capital~~ US TIPS Index: The U.S. TIPS Index covers all publicly issued US Treasury issued inflation linked bonds (linked to the US Consumer Price Index). Issues are Market capitalization weighted. Securities must have a minimum maturity of one year to remain in the index.
43. BofA/Merrill Lynch High Yield Cash Pay Index: This Index tracks the performance of US dollar-denominated below investment grade corporate debt, currently in a coupon paying period, which is publicly issued in the US domestic market. The country of risk of qualifying issuers must be an FX-G10 member, a Western European nation, or a territory of the US or a Western European nation. Individual securities of qualifying issuers must

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have a below investment grade rating (based on an average of Moody's, S&P and Fitch). In addition, qualifying securities must have at least one year remaining term to maturity, a fixed coupon schedule and a minimum amount outstanding of \$100 million. 144a securities, both with and without registration rights, qualify for inclusion in the Index. Issues are Market capitalization weighted.

44. J.P. Morgan Emerging Markets Bond Index – Global Diversified: This index includes US dollar-denominated Brady bonds, Eurobonds, and traded loans issued by sovereign and quasi-sovereign entities. The EMBI Global Diversified defines emerging markets countries with a combination of World Bank-defined per capita income brackets and each country's debt restructuring history. Issues are Market capitalization weighted but the index limits the weights of those index countries with larger debt stocks by only including a specified portion of these countries' eligible current face amounts of debt outstanding. The maximum weight to a country is capped. Securities must have a minimum maturity of one year to remain in the index.
45. J.P. Morgan Global Bond Index - Emerging Markets Global Diversified [GBI-EM Global Diversified]: This index is a comprehensive Emerging Markets debt benchmark that track local currency bonds issued by Emerging Market governments (14 countries from Asia, Europe, Latin America, and Middle East/Africa). Countries are eligible for *inclusion* as long as they are classified as having a low or middle per capita income by the World Bank for at least two consecutive years. Markets with capital controls are not eligible. Issues are market capitalization weighted but the index limits the weights of those index countries with larger debt stocks by only including a specified portion of these countries' eligible current face amounts of debt outstanding. The maximum weight to a country is capped at 10%. The excess is redistributed to those countries that have a market capitalization of less than 10%. Securities must have a minimum maturity of one year to remain in the index.
46. Citigroup Large Pension Fund Index: This index provides an appropriate benchmark for pension funds seeking to establish long-term core portfolios that more closely match the longer duration of their nominal dollar liabilities. Issues are Market capitalization weighted; sectors have fixed weights. Securities must have a minimum maturity of 7 years (non mortgage); one year (mortgage) to remain in the index. Securities must have a minimum quality BBB-/Baa3.
47. Citigroup World Government Bond Index ex-US: This index contains Sovereign debt denominated in the domestic currency (23 government bond markets: of Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Malaysia, Mexico, the Netherlands, Norway, Poland, Singapore, Spain, Sweden, Switzerland, U.K., and U.S.). Issues are Market capitalization weighted. Securities must have a minimum maturity of one year to remain in the index. Securities must have a minimum quality A-/A3.

Additions shown by underscoring; deletions shown by strikethrough.

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL

INVESTMENT POLICY STATEMENT



Approved ~~November 15, 2012~~ May 12, 2016
Replaces version dated ~~March 29, 2012~~ November 15, 2012

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL

INVESTMENT POLICY STATEMENT

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PLEASE NOTE:

*** ~~These Appendices and Guidelines are in separate documents and are incorporated by reference. Appendices (4-8) to Investment Policy Statements of UCRP and GEP~~**

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Introduction and Purpose

This Investment Policy Statement (“Policy” or IPS”) provides the framework for the management of the investments of the University of California General Endowment Pool (“GEP”). The purpose of a policy statement is to document the investment management process by

- Identifying the key roles and responsibilities relating to the ongoing management of the GEP’s assets;
 - Recognize and ameliorate the agency issues among the parties responsible for various aspects of investment management;
- Setting forth an investment structure for the GEP’s assets;
 - This structure includes various asset classes and acceptable ranges that, in aggregate, are expected to produce a sufficient investment return over the long term while prudently managing risk;
 - This strategy should provide guidance in all market environments, and should be based on a clear understanding of worst case outcomes;
- Establishing formalized criteria to measure, monitor, and evaluate GEP performance results on a regular basis; and
- Encouraging effective communication among all fiduciaries, including external parties engaged to execute investment strategies.

The document is divided into ~~five~~ four sections. There are also a number of Appendices, which are integral parts of this document.

1. Investment Goals, Key Responsibilities, and Philosophy

- a. The **mission** of the GEP is to provide a common investment vehicle, which will generate a stable and continuously growing income stream, for (most but not all of) the University’s endowments and quasi-endowments, for which the University is both trustee and beneficiary.
- b. The overall investment **goal** of the GEP is to preserve the purchasing power of the future stream of endowment payout for those funds and activities supported by the endowments, and to the extent this is achieved, cause the principal to grow in value over time. Other goals include:
 - To maximize return within reasonable and prudent levels of risk
 - To maximize the value of the endowment while maintaining liquidity needed to support spending in prolonged down markets.

Key **responsibilities** in the oversight and management of the GEP are as follows:

- c. Under the authority granted in University Bylaw Sections 10.1.b and 12.5.a, The Regents has appointed a standing Committee on Investments (“Committee”), which is charged with oversight responsibility for the management of investments on behalf of The Regents, which includes the establishment of investment policies for the GEP and oversight of the management of the GEP’s assets.

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- d. Under the Bylaw Section 12.5.c, the Committee is directed to establish a system of custodianship for all securities.
- e. Under University Bylaw Section 21.4, The Regents has delegated to the Chief Investment Officer general responsibility for all investment matters, including the implementation of investment policies established by the Committee for the GEP. References to the “Chief Investment Officer” below shall be understood, depending on the context, to mean the “Office of the Chief Investment Officer.”

The **philosophy** for the management of the GEP assets is as follows.

- f. The investment philosophy of the Committee is to create a management process with sufficient flexibility to capture investment opportunities as they may occur, yet maintain reasonable parameters to ensure prudence and care in the execution of the investment program.
- g. The Committee seeks a return on investment consistent with levels of investment risk that are prudent and reasonable given medium- to long-term capital market conditions and the investment objectives of the GEP. (See part 4 below.) While the Committee recognizes the importance of the preservation of capital, it also recognizes that to achieve the GEP’s investment objectives requires prudent risk-taking, and that risk is the prerequisite for generating excess investment returns. Therefore the Committee’s policy regarding investment risk, consistent with modern portfolio theory, is that risk cannot be eliminated but should be managed, and that fiduciaries have the obligation to utilize risk efficiently. Risk exposures should be identified, measured, monitored and tied to responsible parties; and risk should be taken consistent with expectations for return. Further articulation of the Committee’s risk policy, including appropriate budgets and ranges for various types of risk are found in Appendix 2.

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

- ~~h. *Capital market risk* is the risk that the investment returns (in excess of the risk free rate) associated with the Committee’s asset allocation policy are 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 Committee.~~
- ~~i. *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.~~
- ~~j. *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, both at policy allocation. 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).~~
- ~~k. *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.~~

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- ~~l. *Total active risk* refers to the volatility of the difference between the return of the GEP policy benchmark (see Appendix 1) and the actual return. It incorporates the aggregate of the risks in (i), (j) and (k) above, and is thus the responsibility of the Chief Investment Officer.~~
- ~~m. *Total investment risk* refers to the volatility of the return of the total GEP assets. It incorporates all elements of investment risk as enumerated above, and is thus the joint responsibility of the Committee and the Chief Investment Officer.~~
- ~~n. *Peer risk* refers to the difference in GEP performance relative to peer institutions. The Committee acknowledges that similar institutions may have different objectives and different levels of investment risk. Comparisons of performance with other institutions are meaningful *only* after adjusting for differences in investment policy and risk among peers. This risk is the responsibility of the Committee.~~

2. Investment Policies

The policies of the investment program establish the investment strategy and guide its implementation.

- a. The investment policies of the GEP shall be based on a financial plan that will consider:
 - i. The financial condition of the GEP, i.e., the relationship between the current and projected assets of the GEP, projected donor contributions, and the desired spending policy. [see Appendix 3]
 - ii. Future growth of faculty and students; and both general and educational inflation
 - iii. The expected long term capital market outlook, including expected volatility of and correlation among various asset classes
 - iv. The range of possible investment outcomes associated with different policies
 - v. The Committee's risk tolerance, that is, the trade-off between the desire to achieve high returns (and the associated high volatility) and the desire to avoid unacceptable outcomes (and the associated necessity for reduced volatility returns).
- b. The Committee will consider alternative investment policies and will measure their potential impact on the financial condition of the GEP and assess their suitability in meeting the objectives of the GEP.
- c. The Committee's financial plan will result in a risk budget, that is, an expected amount of volatility associated with a given expected level of investment returns offered by the capital markets including the expected active return.
- d. Based on the risk budget, the Committee, with input from the Chief Investment Officer and other consultants, will approve a specific allocation of the investments (the asset allocation policy) among the various asset classes considered prudent given the GEP's objectives, time horizon, and constraints, and considering multiple measures of investment risk. The asset allocation policy shall be expressed in terms of a normal percentage allocation, and ranges for each asset class. These normal weights and ranges are found in Appendix 1. Criteria for including an asset class in the strategic allocation are also in Appendix 1.

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- e. The asset allocation policy shall be sufficiently diversified to enable the appropriate fiduciary to manage risk without imprudently sacrificing return. The Chief Investment Officer is delegated the responsibility of managing total and active risk within the ranges set by the Committee (see Appendices 1 and 2). Within the limits of prudent diversification and established risk budgets, capital market and active risk exposures are fungible, and the Chief Investment Officer may allocate risk exposures within and between asset classes in order to optimize return. When necessary, the Chief Investment Officer may use appropriate risk management strategies to protect portfolio value.
- f. The Committee will approve performance benchmarks for each asset class, based on a pre-approved set of criteria, which are found in Appendix 1, and will approve overall investment guidelines for each asset class, which are found in Appendix 7.
- g. The GEP assets shall at all times avoid the use of economic leverage (subject to exceptions below). Economic leverage, in the context of portfolio management is defined as a net dollar exposure to assets in excess of the amount of invested capital, as measured by current market value. The term “net dollar exposure” is defined in the Derivatives Policy, Appendix 4. A very small, inadvertent, or temporary violation of this restriction that may occur in the normal course of portfolio management shall *not* be construed as leverage. Notwithstanding the general prohibition against leverage, leverage may be used in Private Equity, Real Estate, Real Assets, and Absolute Return strategies, per the limits and guidelines set forth in Appendix 7 and in the conduct of the Securities Lending Program (see section 2l. below). All leverage shall be non-recourse to the Regents, a public corporation, with respect to GEP investments.
- h. The Chief Investment Officer will implement the asset allocation policy as approved by the Committee. The Chief Investment Officer will select investment professionals (or “managers”) with demonstrated experience and expertise who will be responsible for managing specific portfolios consistent with the Guidelines in Appendices 6 and 7. Each investment manager will function under a formal contract that delineates its responsibilities, investment style and process, performance expectations, administrative requirements, and compensation. Where appropriate, each manager’s contract will include a benchmark and range of probable outcomes relative to that benchmark. The Chief Investment Officer shall establish and implement procedures for the selection, monitoring, evaluation, and termination of investment managers, which are found in Appendix 6.
- i. The Chief Investment Officer will allocate funds across managers to develop an efficient investment structure, within the constraints of the prudence requirement, for each asset class, and will monitor whether the aggregate characteristics of all portfolios in an asset class comply with the investment guidelines for that class. The Chief Investment Officer will determine a policy allocation for each manager to be used in the evaluation of the active management program.
- j. The Chief Investment Officer shall establish and implement procedures to provide efficient management of liquidity (including timely payouts) for the GEP.
- k. The Chief Investment Officer shall be responsible for administering the investments of the GEP at the lowest possible cost, being careful to avoid sacrificing quality. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs and other administrative costs chargeable to the GEP. The Chief Investment Officer may establish directed brokerage arrangements with the custodian for

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the GEP or other qualified third parties in order to reduce overall commissions cost for the GEP.

- l. The Chief Investment Officer may participate in securities lending programs, as a means to augment income, with the custodian or other qualified third parties. Cash collateral received from borrowers will be invested by the Chief Investment Officer or the lending agent, in a short term investment pool, in accordance with guidelines established by the Chief Investment Officer.
- m. The Committee considers the active voting of proxies an integral part of the investment process. Proxy voting will occur in accordance with the Proxy Voting Policy found in Appendix 5.
- n. The investment program shall comply with existing and future applicable state and federal laws and regulations and the prudence requirement.
- o. All transactions undertaken on behalf of the GEP will be undertaken solely in the interests of the University and according to the direction of donors.

3. Fiduciary Oversight Procedures

The following procedures for the management of the GEP's assets outline the specific responsibilities of the Committee and other fiduciaries.

- a. The Committee, in developing investment policy for the GEP assets, shall act with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.
- b. The Committee will exercise its fiduciary responsibilities in regard to the investment program in accordance with the GEP Mission [see section 1.a above] and University Bylaws.
- c. The Committee shall review the asset allocation policy, asset class guidelines, and current capital market assumptions at least annually to ensure that the current asset mix can reasonably be expected to achieve the long-term goals of the GEP.
- d. The Committee will review the GEP's financial condition annually, and recommend a Spending Policy for each year to the Finance Committee, which is responsible for approval.
- e. The Committee may appoint investment consultants to review investment performance of the GEP in whole or with respect to specific asset classes, to assist in the development of the GEP's investment policies and asset allocation, to monitor and report on investment risks, and to provide independent assessment of investments proposed by the Chief Investment Officer.
- f. ~~The Committee has appointed a standing Investment Advisory Committee ("IAC") of selected Regents, investment professionals, faculty, and UC Foundation members to provide input to the Committee on decisions and assist in oversight of the Chief Investment Officer. The Chair of the Committee shall also be the Chair of the IAC.~~
- f. The Investment Advisory Group shall function in an oversight and evaluative role providing advice to The Regents with respect to establishment of investment policies and

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investment performance, including, but not limited to, investment strategies, policies and procedures; investment performance; investment personnel of the Chief Investment Officer; external investment managers; and the budget of the Chief Investment Officer. The Committee on Investments has authority under Regents Bylaw 12.5 for management of investments of the Corporation, and the Advisory Group shall have no management or action authority. In addition, the Investment Advisory Group shall have no authority for selection of specific investments, including the selection of investment managers or individual investments.

- g. The Committee shall review the investments of the GEP no less than quarterly to assess whether policy guidelines continue to be appropriate and are met. The Committee shall monitor investment risk, as well as monitor investment returns on an absolute and benchmark relative basis.
- h. The Chief Investment Officer shall prepare quarterly and annual reports for the Committee and The Regents on the investment program, including
 - i. The achievement of overall performance objectives
 - ii. The type and amount of risk taken to achieve those objectives
 - iii. Attribution of returns to various investment decisions and risks
 - iv. Adherence to budgets set for total and active risk
 - v. Compliance with policy guidelines, particularly asset allocation policy, and
 - vi. The costs of managing the GEP's assets.
- i. Investment performance results shall be calculated and verified at least monthly by an external, independent performance consultant.
- j. The Chief Investment Officer, in conjunction with the various investment consultants, will monitor the investment managers for compliance with their investment guidelines, achievement of specific objectives, and individual risk exposures.
- k. The Chief Investment Officer shall monitor the conduct of the custodian of the GEP.
- l. The Chief Investment Officer shall adopt the CFA Institute Code of Ethics and Standards of Professional Conduct for all employees of the Chief Investment Officer and relevant consultants and managers. These are found at <http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2014.n6.1> <http://www.cfainstitute.org/cfacentre/pdf/English2006CodeandStandards.pdf> and incorporated by reference. The Chief Investment Officer shall develop and enforce other ethics guidelines for the employees of the Chief Investment Officer as needed, consistent with other University policies and guidelines.
- m. The Committee will review this Policy from time to time to determine if modifications are necessary or desirable.

4. Performance Objectives

Performance objectives shall be established for the total GEP, asset class composites and individual manager portfolios. These objectives will be incorporated in the quarterly reviews of the GEP's performance.

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The investment strategy articulated in the asset allocation policy found in [Appendix 1](#) has been developed in the context of long-term capital market expectations, as well as multi-year projections of contributions, spending, and inflation. Accordingly, the investment objectives and strategies emphasize a long-term outlook, and interim performance fluctuations will be viewed with the corresponding perspective. The Committee acknowledges that over short time periods (i.e. one quarter, one year, and even three to five year time periods), returns will vary from performance objectives and the investment policy thus serves as a buffer against ill-considered action.

There are four principal factors that affect an endowment fund's financial status: 1) contributions from donors, 2) annual payout to endowment recipients, 3) inflation, and 4) investment performance. Only the last factor is dependent upon the investment policy and guidelines contained herein. However, the Committee's 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 desired spending. The result is that either spending policy has to be changed, contributions increased or risk tolerance changed.

Rates of return will be calculated based on a time-weighted rate of return formula as recommended by the CFA Institute. Returns will be calculated by the ~~performance consultant~~custodian and will be reported net of all fees and costs.

The performance of the overall GEP will be measured relative to:

- Inflation
 - Policy benchmarks
- a. Total GEP return should exceed the Consumer Price Index on a consistent basis over time (e.g. rolling 3 and 5 years).
- This objective is to achieve a positive return above inflation. The GEP's assets are invested with an infinite time horizon, and failure to keep pace with inflation may jeopardize the endowments' intended purposes.
- b. Total GEP return should match or exceed the total GEP weighted policy benchmark return, net of all fees and expenses on a consistent basis over ~~time~~the long term. See [Appendix 1](#) for the composition and calculation of the GEP policy weighted benchmark.
- This objective is to match or exceed a passively managed fund with a similar asset mix, net of all fees and expenses. The value added above the policy benchmark measures the effectiveness of the Chief Investment Officer's implementation and management decisions. The policy benchmark should also be adjusted for the costs of passive investing.

Additional metrics with respect to risk are found in the Risk Policy [Appendix 2](#).

5. Asset Class and Manager Guidelines

~~The general guidelines that apply to all investment managers are:~~

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- a. ~~Subject to constraints and restrictions imposed by the manager guidelines, all decisions regarding sector and security selection, portfolio construction, and timing of purchases and sales are delegated to the investment manager.~~
- b. ~~The purchase of securities issued by tobacco companies is prohibited in separately managed accounts. The Regents have defined a tobacco company as “a company which derives its revenues from the manufacture and distribution of tobacco products or, if a diversified company, that no other business line contributes more revenues or earnings than tobacco products.” The Chief Investment Officer will determine what constitutes a tobacco company based on standard industry classification of the major index providers (e.g., Russell, MSCI) and communicate this list to investment managers annually and whenever changes occur. The Committee recognizes that the establishment of social investing restrictions limits investment opportunities and should be accompanied by adjusting performance evaluation standards appropriately.~~
- c. ~~The direct purchase of property owned or a security issued by the University, its subsidiaries and affiliates, is prohibited~~
- d. ~~The purchase of non-negotiable securities is prohibited in the equity and fixed income asset classes.~~
- e. ~~The use of derivative securities or contracts to create economic leverage in the portfolio is prohibited. Acceptable and prohibited uses of derivatives are found in the derivatives policy in Appendix 4.~~
- f. ~~Transactions that involve a broker acting as a "principal," where such broker or an affiliate is also the investment manager, who is making the transaction, are prohibited.~~
- g. ~~Transactions shall be executed at the lowest possible total cost, which includes commissions, efficiency of execution, and market impact.~~
- h. ~~Any investment or action with respect to an investment not expressly allowed is prohibited, unless presented to and approved prospectively by the Committee. All guidelines must be adhered to; however, if from time to time a manager shall deem an exception to the guidelines appropriate, the Chief Investment Officer shall seek review and approval by the Committee to make such an exception.~~

~~Managers are required to inform the Chief Investment Officer of significant matters pertaining to the investment of GEP assets, including at a minimum, substantive changes in investment strategy and portfolio structure; significant changes in ownership, organizational structure, financial condition or professional staffing; litigation or violation of securities regulations; significant account losses or growth of new business. Managers must inform the Chief Investment Officer in the event of discovering an unintended or involuntary violation of their guidelines or of any of the Policies herein pertaining to them.~~

~~Managers are required to submit periodic reports to the Chief Investment Officer summarizing investment activity and strategy, as per Appendices 6 and 7 and individual guidelines. Managers are required to reconcile investment returns with the custodian each month.~~

~~Specific guidelines for each major asset class will be found in Appendix 7. Manager guidelines will contain specific provisions to ensure that performance objectives and risk exposures are consistent with their particular investment mandate, which may be a style or subset of their larger~~

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~~asset class. However, all individual manager guidelines will be consistent with broad asset class guidelines and this Policy.~~

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APPENDIX 1

Effective: ~~July 19, 2012~~ May 12, 2016

Replaces Version Effective: ~~January 1, 2012~~ July 19, 2012

**ASSET ALLOCATION,
PERFORMANCE BENCHMARKS,
AND REBALANCING POLICY**

Based on the risk budget for the GEP, the Committee has adopted the following asset allocation policy, including asset class weights and ranges, benchmarks for each asset class, and the benchmark for the total GEP.

Criteria for including an asset class in the strategic policy include:

- Contributes positively to the investment objective of GEP
- Widely recognized and accepted among institutional investors
- Has low correlation with other accepted asset classes
- Has a meaningful performance history
- Involves a unique set of investors

~~The Current Policy Allocation recognizes the current under investment in illiquid asset classes (real estate, real assets) and the corresponding need to set rebalancing ranges around this effective policy allocation until such time as long term policy weights in these classes are achieved. The allowable ranges for each asset class and in total have been chosen to be consistent with budgets and ranges for total and active risk.~~

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A. Strategic Asset Allocation and Ranges

	<u>Current Policy Allocation</u>	<u>Long-Term Target Allocation</u>	<u>Allowable Ranges</u>	
			<u>Minimum</u>	<u>Maximum</u>
U.S. Equity	48.5%	43.521.0%	43.516.0	23.526.0
Developed Non US Equity	16.0	8.014.0	11.09.0	21.019.0
Emerging Mkt Equity	-6.0	7.07.5	4.05.0	-8.010.0
Global Equity	-2.0	-0.0	-1.0	-3.0
US Fixed Income	-5.75	5.0	-2.752.0	8.758.0
High Yield Fixed Income	-3.0	2.5	2.00.0	-4.05.0
Emerging Mkt Fixed Income	-3.0	2.5	-2.00.0	4.05.0
TIPS	-4.0	2.5	2.00.0	-6.05.0
Private Equity	-9.0	-9.011.5	6.06.5	12.016.5
Absolute Return — Diversified	23.5	23.523.0	18.518.0	28.528.0
Cross Asset Class	-2.0	5.0	-0.0	7.0
Opportunistic Equity	-0.0	10.0	-0.0	12.0
Real Assets	-1.25	3.0	-0.250.0	2.256.0
Real Estate	-6.0	8.57.5	3.04.5	9.010.5
Liquidity	-0.0	0.0	0.0	10.015.0
TOTAL	100%	100%		
Combined Public Equity	42.5	28.542.5	32.5	52.5
Combined Fixed Income	15.75	12.5	10.757.5	20.7517.5
Combined Alternatives Other Investments*	41.75	59.045.0	26.7530.0	56.7560.0

* ~~Alternatives~~ Other Investments category including, but not limited to: Real Estate, Private Equity, Real Assets, and Absolute Return Strategies

B. Asset Class Performance Benchmarks

The Committee has adopted the following performance benchmarks for each asset class. Criteria for selection of a benchmark include:

- Unambiguous: the names and weights of securities comprising the benchmark are clearly delineated
- Investable: is possible to replicate the benchmark performance by investing in the benchmark holdings~~the option is to forego active management and simply replicate the benchmark~~
- Measurable: it is possible to readily calculate the benchmark's return on a reasonably frequent basis
- Appropriate: the benchmark is consistent with The Committee's investment preferences or biases

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- Specified in Advance: the benchmark is constructed prior to the start of an evaluation period
- Reflecting 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

<u>Asset Class</u>	<u>Benchmark</u>
U.S. Equity	Russell 3000 Tobacco Free Index
Non US Eq. Devel.	MSCI World ex-US Net Tobacco Free
Emerging Mkt Eq.	MSCI Emerging Market Free Net
Global Equity	MSCI All Country World Index Net – IMI – Tobacco Free
Fixed Income	Barclays Capital US Aggregate Bond Index
High Yield Fixed Income	Merrill Lynch High Yield Cash Pay Index
Emg Mkt Fixed Income	Dollar Denominated: JP Morgan Emerging Markets Bond Index Global Diversified
Emg Mkt Fixed Income	Local Currency: JP Morgan Government Bond Index Emerging Markets Global Diversified
TIPS	Barclays Capital US TIPS Index
Private Equity	N/A (See below note 2.)
Absolute Return	Diversified: HFRX Absolute Return Index (50%) + HFRX Market Directional Index (50%)
Cross Asset Class	Aggregate GEP Policy Benchmark
Opportunistic Equity	To be determined by Regents' Investment Consultant
Real Assets	Commodities: S&P GSCI Reduced Energy Index All other: N/A (See below note 3.)
Real Estate	Public: FTSE EPRA NAREIT Global Index return
Real Estate	Private: NCREIF Funds Index – Open End Diversified Core Equity (ODCE), lagged 3 months

Notes on asset class benchmarks:

1. Global Equity: The Chief Investment Officer will determine what constitutes a tobacco company based on standard industry classification of the major index providers (e.g., Russell, MSCI) and communicate this list to investment managers annually and whenever changes occur.
2. Private Equity: *Long term* portfolio returns will be compared to investable public equity alternatives as well as non-investable peer group indices. There is no appropriate market benchmark to use for *short term* performance evaluation or decision making.
3. Real Assets (all strategies ex-commodities): similar to Private Equity

C. Total GEP Performance Benchmark

This is the composition of the total GEP performance benchmark referred to in the Investment Policy Statement, Part 4(b). The percentages below add to 100%.

<u>Percentage</u>	<u>Benchmark</u>
18.5 21.0%	× Russell 3000 Tobacco Free Index
16.0 14.0%	× MSCI World ex-US Net Tobacco Free
6.0 7.5%	× MSCI Emerging Market Free Net
2.0%	× MSCI All Country World Index Net – IMI – Tobacco Free

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5.755.0%	× Barclays Capital US Aggregate Bond Index
3.02.5%	× Merrill Lynch High Yield Cash Pay Index
3.02.5%	× JP Morgan Emerging Market Bond Index Global Diversified
4.02.5%	× Barclays Capital US TIPS Index
9.011.5%	× Actual return of private equity portfolio
23.523.0%	× [HFRX Absolute Return Index × 50%] + [HFRX Market Directional Index × 50%] [Abs. Ret. — Diversified]
2.0%	× Aggregate GEP Policy Benchmark [Cross Asset Class]
0.0%	To be determined by Regents' Investment Consultant [Opportunistic Equity]
1.253.0%	× Aggregate Real Assets benchmark (see section B), with components weighted by their actual weights within the total real assets portfolio
6.07.5%	× <u>NCREIF Funds Index – Open End Diversified Core Equity (ODCE), lagged 3 months</u> Aggregate of Public and Private Real Estate benchmarks (see section B), with components weighted by their actual weights within the total real estate portfolio

Notes on Total Fund benchmark:

1. The benchmark for private equity is replaced by the private equity portfolio's actual performance. This has the effect of neutralizing the active performance of this class for purposes of total fund performance evaluation.
2. The calculation of the Total Fund benchmark will assume a monthly rebalancing methodology.
3. In the event of a significant change in asset allocation, ~~The Regents' generalist consultant~~ the Chief Investment Officer in consultation with the Committee may specify an alternative weighting scheme to be used during a transition period.

D. Rebalancing Policy

There will be periodic deviations in actual asset weights from the long-term/current policy asset weights specified above. Causes for periodic deviations are market movements, cash flows, and varying portfolio performance. Significant movements from the asset class policy weights will alter the intended expected return and risk of the GEP. Accordingly, the Investment Committee authorizes the Chief Investment Officer to rebalance the GEP when necessary to ensure adherence to the Investment Policy.

The Chief Investment Officer will monitor the actual asset allocation at least monthly. The Committee directs the Chief Investment Officer to take all actions necessary, within the requirement to act prudently, to rebalance assets to within the policy ranges in a timely and cost effective manner when actual weights are outside the prescribed ranges. The Chief Investment Officer may utilize derivative contracts [in accordance with Appendix 4] to rebalance the portfolio such that the portfolio's net exposures are consistent with policy ranges.

The Chief Investment Officer shall assess and manage the trade-off between the cost of rebalancing and the active risk associated with the deviation from policy asset weights. With

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approval from the Chair of the Committee, 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. Results of rebalancing will be reported to the Committee at quarterly meetings.

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APPENDIX 2

Effective: May 12, 2016

RISK MANAGEMENT POLICY

RISK PHILOSOPHY

In its broadest sense, risk refers to the unpredictability of future asset value, and specifically, the chance that assets may decrease, as well as increase, in value. Investment principles and practical experience both support the notion that expected returns are proportional to market risk taken. The Committee recognizes that the assumption of risk is necessary to meet GEP objectives; that is, there are no “risk free” assets, which are sufficient to generate the return needed to support planned spending. Thus GEP risk management does not require the elimination of risk, but the balancing of risk and expected return. Risk in itself is intrinsically neither good nor bad; it is a resource used to generate investment returns. The Committee recognizes that “The essence of investment management is the management of risks, not the management of returns.”

RISK POLICY

The Committee’s policy regarding investment risk, consistent with modern portfolio theory, is that risk cannot be eliminated but should be managed. That is, GEP fiduciaries are responsible for understanding the risks in various investment strategies, ensuring that they are properly compensated for these risks, and measuring and monitoring them continually. In particular, the level of risk taken should be consistent with the return objectives of the GEP.

Fiduciaries set the framework for risk management through the investment policy and guidelines, the strategic asset allocation, and the benchmarks used for performance objectives. However, tolerance for risk (alternatively, aversion to risk) may also be expressed in the form of various metrics for risk (volatility) and acceptable budgets and ranges for those metrics. Where appropriate, the Committee shall define these metrics and budgets for risk and establish acceptable ranges for them (see below).

The Chief Investment Officer is responsible for managing both total and active risk and shall implement procedures and safeguards so that the combined risk exposures of all portfolios in the aggregate are kept within limits established by the Committee (~~see definitions in section 4 of the Policy above~~ as defined below). Further, within limits of prudent diversification and risk budgets, total and active risk exposures are fungible, that is the Chief Investment Officer may allocate risk exposures within and between asset classes in order to optimize return.

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

- a. *Capital market risk is the risk that the investment returns (in excess of the risk-free rate) associated with the Committee’s asset allocation policy are 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 Committee.*

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- b. 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.
- c. 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, both at policy allocation. 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).
- d. 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.
- e. Total active risk refers to the volatility of the difference between the return of the GEP policy benchmark (see [Appendix 1](#)) and the actual return. It incorporates the aggregate of the risks in (b), (c) and (d) above, and is thus the responsibility of the Chief Investment Officer.
- f. Total investment risk refers to the volatility of the return of the total GEP assets. It incorporates all elements of investment risk as enumerated above, and is thus the joint responsibility of the Committee and the Chief Investment Officer.
- g. Peer risk refers to the difference in GEP performance relative to peer institutions. The Committee acknowledges that similar institutions may have different objectives and different levels of investment risk. Comparisons of performance with other institutions are meaningful *only* after adjusting for differences in investment policy and risk among peers. This risk is the responsibility of the Committee.

Although the management of investment portfolios may be outsourced, investment oversight and risk management are primary fiduciary duties of the Committee 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 Committee, either quarterly or annually as required below.

RISK METRICS AND BUDGETS

There are different types of risk important at each level of GEP investment management and thus different risk metrics are appropriate at each level.

- GEP level
 - Spending Risk (insufficient assets to meet planned spending)
 - Measures the risk of inappropriate investment policy and strategy
- Asset class level
 - Total Investment Risk (volatility of total return)
 - Measures the risk of ineffective implementation of strategy
- Portfolio level
 - Active Risk or "Tracking Error" (volatility of deviation from style or benchmark)
 - Measures the risk of unintended exposures or inadequate diversification

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- **Spending risk**

The Chief Investment Officer shall report on this measure to the Committee annually, in conjunction with endowment financial reviews. However, no objective levels (budget) will be set for this metric due to the separation of responsibility for investment management and spending policy, and the unpredictability of donor contributions. Thus results will be presented for information and use in policy reviews.

- **Metric:** Projected year-to-year change in real spending per student, over a long term forecast horizon

- **GEP Total Investment risk**

The basis for the risk budget at the total asset level is the Policy benchmark, or neutral position. Thus the risk budget starts with the risk of the benchmark index. Assuming an expected benefit from active management, the impact of deviations from the benchmark is added to the benchmark risk to derive the total risk budget. The Chief Investment Officer shall report on this metric to the Committee quarterly.

- **Metric:** GEP Total Investment Risk, defined as the annualized standard deviation of the monthly GEP returns, exponentially weighted over the previous 12 months. Benchmark Risk (i.e., the Capital Market risk of the strategic asset allocation) is measured similarly (using returns on the policy benchmark).
- **Budget:** GEP Total Investment Risk shall be maintained at a level equal to the square root of the sum of the squares of Benchmark Risk and the Active Risk budget (see below).
- **Range:** If GEP Total Investment Risk is greater (less) than 20% above (below) the budgeted level at any quarterly measurement date, the Chief Investment Officer will take appropriate steps to reduce (increase) total GEP risk to its budget level, including but not limited to rebalancing asset class weights within allowable ranges. (For example, if the risk budget is 12%, the allowable range is +/- 2.4% [20% x 12%].)

- **GEP Active Risk**

There is no neutral or natural budget for active risk. The budget for active risk is determined to be consistent with the tolerance for active risk and the expectation to earn active return due to market inefficiencies and/or investment skill. This budget for active risk includes *all of the following* types of variation from policy:

1. Temporary asset weights different from strategic policy, but within the allowed ranges [Tactical/strategic risk]
2. Aggregate manager benchmarks different than asset class benchmark [Investment style risk]
3. Aggregate active manager risks [Manager value-added risk], including
 - Aggregate portfolio systematic exposures different from the benchmark
 - Aggregate portfolio security selection decisions
 - Aggregate portfolio currency exposures different from the benchmark

The Chief Investment Officer shall report on this metric to the Committee quarterly.

- **Metric:** Tracking Error, defined as annualized standard deviation of the difference between monthly GEP returns and monthly policy benchmark returns, exponentially weighted over the previous 12 months

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- o **Budget:** Tracking Error budget shall be 3.0% annual standard deviation. It is understood that this budget may change when there is a change in
 - asset allocation, or
 - risk tolerance
- o **Range:** If Tracking Error is greater (less) than 1.0% (one percentage point) above the budget level at any quarterly measurement date, the Chief Investment Officer will take appropriate steps to reduce (increase) tracking error to its budget level, including but not limited to rebalancing asset class and/or manager weights within allowable ranges.

Both Total Investment Risk and Active Risk for the GEP shall be computed without the impact of Private Equity. For this calculation, it will be assumed that Total Fund performance excludes Private Equity performance and the Total Fund benchmark has no Private Equity component. Private Equity is the asset class defined in Appendix 7K.

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APPENDIX 3

SPENDING POLICY

The Regents have adopted a Total Return Policy, that is, annual spending may be comprised of income, realized capital gains, or unrealized capital gains, or any combination thereof.

Annual spending shall be calculated as: a percentage times the average of the past 60 months market value of endowment assets, where the percentage may range between 4.35% and 4.75%, inclusive. Even with this smoothing of the impact of investment returns, there is a possibility that both nominal and inflation adjusted spending may experience year-to-year declines.

There are four principal factors that affect an endowment fund's financial status: 1) contributions from donors, 2) annual payout to endowment recipients, 3) inflation, and 4) investment performance. Only the latter is dependent upon the investment policy and guidelines contained herein. However, the Committee's 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.

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APPENDIX 4

This version: November 15, 2012

Last approved: February 14, 2006

DERIVATIVES POLICY

1. INTRODUCTION

The purpose of the Derivatives Policy is to establish permitted (and prohibited) uses of derivatives, to establish procedures for managing risks related to derivative securities, and for monitoring and reporting of their use in the Fund.

2. DEFINITION AND SCOPE

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.

This Policy covers only futures, options, swaps, and their combinations. It is applicable to marketable equity and bond asset classes only, not to absolute return strategies, real estate, or private equity. Securities with embedded option features, such as callable or convertible bonds, or mortgaged backed securities, typically have different risks, and are discussed in the Fixed Income Guidelines.

3. DERIVATIVES POLICY

The Committee recognizes that all investing, including the use of derivatives, involves risk, and that derivatives use is part of modern institutional portfolio management. The principal risk of derivative strategies comes from the potential to lever a portfolio (i.e., to magnify risk exposures using borrowed funds) or otherwise speculate (express views on a security or risk factor without committing capital). Successful and prudent use of derivatives thus depends on

- Well defined uses for derivatives, and avoidance of economic leverage
- Monitoring and measuring risk, and limits on economic exposures
- Investment manager internal controls and defined procedures for managing risk

The following policies govern the use of derivative securities in the Fund:

1. All derivative strategies are *prohibited unless specifically allowed in writing* as part of an investment manager's guidelines. In the latter case, those guidelines must be consistent with the policies stated herein.
2. Use of derivatives to create economic leverage is prohibited, *except for specific strategies only*, as per the Investment Policy Statement of UCRP and GEP, Section 2g, on page 6.
3. Permitted applications for derivatives are (a) efficient substitutes for physical securities, (b) managing risk by hedging existing exposures, or (c) to implement arbitrage or other approved active management strategies, and are detailed in the following section.
4. Although individual derivative securities may be considered risky or inappropriate as stand-alone investments, their use in a portfolio may actually reduce or otherwise manage risk.

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Therefore the risk of derivatives – and their acceptability as investments - should be measured by their impact on the portfolio in which they are used, not in isolation.

5. The Chief Investment Officer shall implement procedures to ensure (a) that the purpose, use, and risks of derivative strategies are well understood and consistent with overall investment objectives and individual strategies, (b) that risks taken are prudent and maintained within acceptable limits, (c) that expected return is commensurate with the risk taken, (d) that their potential impact on the value of the Fund's assets is measured periodically, and (e) that there is compliance with this policy (see below, section 8).

4. USE OF DERIVATIVES

The use of derivatives instruments and strategies will be allowed in three broad areas:

- As efficient substitutes for physical securities for portfolio management , and during portfolio rebalancing, asset allocation, or transition management
 - It is often possible to create the same economic exposure to an asset or asset class by using derivatives as by purchasing the assets directly (in the “cash” or “spot” markets), but with these advantages
 - Reduced transaction cost
 - Increased speed of execution
 - Reduced disruption to existing portfolio strategies
 - Better risk-reward trade-off than exists in the cash markets
- To manage risk by hedging existing exposures
 - Hedging is the process of reducing the possibility for gain or loss over a specific future period by taking an opposite position yet not altering the underlying portfolio structure
- To implement arbitrage strategies
 - Arbitrage is the simultaneous purchase and sale of similar securities in order to capture a perceived pricing disparity between them

These acceptable uses are described in detail below (see sections 4A-C) in the context of specific investment functions.

4A. PORTFOLIO REBALANCING, ASSET ALLOCATION AND TRANSITION MANAGEMENT

Following are potential uses of derivatives, which *may* be permitted for use. This is a representative, not an exhaustive list.

- Maintaining exposure to an asset class or risk factor when large cash inflows or outflows are expected (without changing the existing portfolios' holding of physical securities). In the case of equity portfolios, this is referred to as cash equitization, but the concept and practice applies to any asset class for which derivatives exist.
- Implementing an asset allocation efficiently prior to manager selection and/or before funding is completed
- Implementing a portfolio restructuring / rebalancing efficiently prior to manager selection and/or before funding is completed
- Implementing tactical asset allocation programs efficiently

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- Implementing “alpha transport” or “portable alpha” strategies (i.e., to separate capital market exposures from the active management process and maintain a desired asset allocation while optimizing the use of active risk) between distinct asset classes, such as from (to) equity to (from) fixed income
- Implementing a portfolio insurance strategy during a period of heightened market volatility

4B. EQUITY PORTFOLIO MANAGEMENT

Following are potential uses of derivatives, which *may* be permitted for use. This is a representative, not an exhaustive list.

- Maintaining exposure to an asset class when large cash inflows or outflows are expected (without changing the portfolio’s holding of physical securities)
- Obtaining exposure to a sector, country, or asset class more efficiently or more cheaply than is possible in the spot markets
- Eliminating or reducing the performance “drag” of cash held to facilitate transactions by purchasing ETF’s or futures
- Return enhancement in a risk controlled framework (e.g., selling covered calls)
- Hedging anticipated market moves (without changing a portfolio’s holding of physical securities) using futures and/or options. Such hedging is limited to (a) offsetting existing positions, or (b) offsetting anticipated near term portfolio rebalancing.
- Hedging foreign currency exposure using foreign exchange forwards, futures, or options.
- Implementing long/short, market neutral, or other arbitrage strategies.
- Implementing “alpha transport” or “portable alpha” strategies within an asset class or across distinct equity asset classes

4C. FIXED INCOME PORTFOLIO MANAGEMENT

Following are potential uses of derivatives, which *may* be permitted for use. This is a representative, not an exhaustive list.

- Maintaining exposure to an asset class or risk factor when large cash inflows or outflows are expected (without changing the portfolio’s holding of physical securities)
- Modifying a portfolio’s duration or otherwise changing its exposure to various points along the yield curve (without changing the portfolio’s holding of physical securities)
- Maintaining a portfolio’s targeted yield curve exposure while making sector or security selection decisions which would otherwise change it
- Modifying a portfolio’s credit quality by creating a synthetic credit exposure or neutralizing (hedging) a particular credit exposure
- Obtaining exposure to a sector, country, or asset class more efficiently or more cheaply than is possible in the spot markets
- Facilitating arbitrage strategies, to exploit perceived relative value between securities, subject to the fundamental policy prohibiting leverage stated above
- Eliminating or reducing the performance “drag” of cash held to facilitate transactions by purchasing futures

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- Enhancing return by substituting an exposure in the cash market with a similar derivative exposure
- Hedging anticipated market moves using futures and/or options.
- Hedging foreign currency exposure using foreign exchange forwards, futures, or options.
- Implementing “alpha transport” or “portable alpha” strategies within an asset class or across distinct fixed income asset classes

5. AUTHORITY TO USE DERIVATIVES

The Chief Investment Officer will determine whether the Fund’s investment managers may employ particular permitted strategies. For each investment manager, after determining that the purpose falls within this policy, and that the investment manager has adequate controls and procedures to monitor and measure risk, that manager’s investment guidelines will be developed or modified to permit use of those particular strategies.

The Chief Investment Officer will determine that the investment manager has, at a minimum,

- A defined purpose for each derivatives strategy within the investment mandate, including a thorough understanding of the proposed benefits and potential risks
- Developed and implemented written policies for controlling market, counterparty credit, liquidity, and basis risk
- Ability to value the derivative instruments, and explain the frequency and source of pricing
- Adequate analytical tools to measure and control the risks of the derivatives and assess their impact on the portfolio, on at least a daily basis
- Procedures for periodically stress testing the projected returns of the derivative instruments on both a stand-alone and portfolio basis. In addition, managers must demonstrate awareness of and controls for model risk.
- Adequate internal controls and organizational capabilities for monitoring and reporting market and counterparty credit risk, and internal procedures for identifying and reversing risks in excess of agreed upon limits
- Adequate internal controls and organizational capabilities to account for and control legal, settlement, and operational risk
- Ability to demonstrate compliance with this policy and answer reasonable requests for reporting derivative positions and their risk characteristics

Appropriate senior members of the Office of the Chief Investment Officer, including a senior member of the Risk Management function, will conduct the necessary due diligence and make a recommendation to the Chief Investment Officer concerning the scope of the derivative strategies permitted and any required investment guidelines or amendment(s) to the manager’s investment guidelines.

6. PERMITTED INSTRUMENTS

6A. The following derivative types are permitted under this policy, subject to the conditions and restrictions noted above. This is a representative, not an exhaustive list. As markets evolve and new derivative instruments and strategies are developed, the Chief

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Investment Officer and Regents' Investment Consultant may permit the use of additional derivative instruments or strategies not listed herein, on a case-by-case basis, provided they are consistent with this Policy and with the investment manager's mandate and risk parameters.

- Interest rate futures, commodity futures and equity index futures
- Exchange traded funds (ETF's)
- Foreign currency options, futures and forwards
- Over-the-counter (OTC) options and options on futures
- Swaps and swaptions
- Inverse Floaters
- Credit Default Swaps (CDS)
- Structured Notes, *as long as* the structures are transparent and contain only types and amounts of exposures permitted in these Policies.

6B. The following derivative strategies are not permitted

- Derivative positions creating economic leverage in the portfolio context
- Derivatives used for speculative purposes

7. LIMITATIONS, CONTROLS, AND RESTRICTIONS (see Definitions, section 9)

7A. Portfolio Rebalancing / Asset Allocation

- Selling (writing) uncovered options is prohibited
- Long futures positions must be backed by 100% cash or cash equivalents (i.e., leverage is not permitted)
- Short futures positions must be collateralized by a risk equivalent (long position) of highly correlated physical securities.

7B. Equity Portfolio Management

- The net of long and short dollar exposures to assets or currencies, whether derived from physical or derivative securities, must be less than or equal to the dollar market value of the portfolio, except for very small, inadvertent, or temporary amounts that occur in the normal course of portfolio management
- The gross dollar exposures of the portfolio from physical and derivative securities (whether futures, options, or swaps), cannot exceed 300% of the market value of the aggregate underlying portfolio, at all times
- The Chief Investment Officer may impose further limits on the use of derivatives so that derivative notional values are not only constrained by their contribution to portfolio risk factors (such as beta, regional or industry exposure) but also with consideration to: liquidity, counterparty credit risk, pricing transparency, and model risk. Thus derivative use may be limited even if other portfolio risk limits are not breached.

7C. Foreign Exchange Transactions

- Foreign exchange derivative contracts must have a maturity less than or equal to the anticipated holding period of the underlying security.

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

7D. Fixed Income Portfolio Management

- The net of long and short dollar exposures to assets or currencies, whether derived from physical or derivative securities, must be less than or equal to the dollar market value of the portfolio, except for very small, inadvertent, or temporary amounts that occur in the normal course of portfolio management
- The gross dollar exposures of the portfolio from physical and derivative securities (whether futures, options, or swaps), cannot exceed 300% of the market value of the aggregate underlying portfolio, at all times
- The Chief Investment Officer may impose further limits on the use of derivatives so that derivative notional values are not only constrained by their contribution to portfolio risk factors (such as contribution to portfolio effective duration and spread duration) but also with consideration to: liquidity, counterparty credit risk, pricing transparency, and model risk. Thus derivative use may be limited even if other portfolio risk limits are not breached.

8. MONITORING AND REPORTING

The Chief Investment Officer will implement procedures for periodic monitoring of derivative strategies. Investment managers will be required to provide the following to the Chief Investment Officer:

- Month end position report of derivatives
 - Report will include impact on portfolio, using metrics determined by the Chief Investment Officer
 - For fixed income managers only, report will include contribution to portfolio effective duration and effective convexity
- Quarterly statement of compliance with this policy
- Quarterly strategy report, including economic exposure to each class of derivatives, their use within the portfolio, performance characteristics, and risk controls employed.
- Quarterly report on counterparty credit risk for OTC derivatives

When derivatives are used by the Chief Investment Officer for portfolio rebalancing or asset allocation, the Operations and Trading functions will provide the following to the Chief Investment Officer:

- Daily position, exposure, and profit/loss (P/L) reports

The Chief Investment Officer's risk management process for derivatives will include:

- Monthly reconciliation of managers' derivatives reports with custodian positions in derivatives (for all managers who are permitted to use derivatives)
- Monthly review of Managers' use of derivatives relative to their own policies and with their intended use of derivatives, and with this Policy
- Monthly reports of risk model results (for fixed income managers only)
 - Contribution to effective duration and effective convexity, by portfolio, of *all* positions
 - Economic exposures and risk characteristics of derivatives designated in section A above

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- Stress tests will be required for volatile classes of derivatives such as IOs, POs, and Inverse Floaters
- A monthly statement that all portfolios are in compliance with this policy, and a description of any instances of non-compliance and their disposition
- An annual report on potential model risk (for the risk model currently in use by the Chief Investment Officer)

While the risk of an individual derivative security may be large, risk will be assessed in a portfolio framework (i.e., how each portfolio responds to various market and interest rate scenarios, with and without the derivatives).

9. DEFINITIONS

- a. Derivative: a bilateral contract or payment exchange agreement whose value derives from the value of an underlying asset, reference rate, or index.
- b. Investment Manager: term includes portfolio managers with a fiduciary responsibility for a given investment mandate, whether directly employed by the Chief Investment Officer or an external asset management firm.
- c. Leverage: in the context of these guidelines means “economic leverage,” not “gross leverage.”
- d. Economic leverage: in the context of portfolio management, is defined as a net dollar exposure to assets in excess of the dollar amount of invested capital as measured by current market value
- e. Net dollar exposure (of a portfolio): the arithmetic sum of the dollar market values of all long (positive) and short (negative) positions in securities, plus the notional value of futures contracts, plus the dollar delta of options contracts.
- f. Dollar delta (of an option): a measure of net dollar exposure of an option; defined to be the option’s notional value times the option’s delta.
- g. Gross dollar exposure is defined as the sum of the combined long exposures and the absolute value of the short exposures, including all physical and derivative securities positions.
- h. Gross leverage: a term used to indicate that the gross dollar exposure of a portfolio exceeds the net market value of the total portfolio

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 5

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

PROXY VOTING POLICY

INTRODUCTION

~~It is part of the generally accepted standards of fiduciary care that proxy voting rights must be diligently exercised as an aspect of fiduciary duty. The purpose of this policy is to establish the principles and process for the exercise of that duty.~~

It is part of the generally accepted standards of fiduciary care that proxy voting rights should be duly exercised as a principle fiduciary duty. The purpose of this policy is to establish the principles and process for the exercise of this duty. Voting rights are important to fiduciary responsibility as a means to promote good corporate governance that aligns with the University's interests and goals as a long-term investor. The Office of the Chief Investment Officer believes that prudent exercise of voting rights promotes long-term shareholder value. The duty of prudence includes considerations based on financial criteria, as well as prudent governance, social, and environmental practices.

PROXY VOTING POLICY

The voting guidelines of our elected proxy voting advisor(s) and/or our investment managers reflect viewpoints with respect to essential elements of good governance such as transparency, board alignment with shareholder interests, shareholder rights and business ethics. In general, we vote according to the proxy voting guidelines developed by our elected proxy voting advisor(s) or our investment managers.

Typically, but with certain exceptions:

- proxy issues that are of a routine business management nature, such as election of directors and appointment of auditors, are voted in accordance with the recommendations of management;
- environmental, social or governance (ESG) proxy issues are voted in accordance with our sustainable investment framework ("Sustainability Impacts Investing" available at the following link: http://www.ucop.edu/investment-office/_files/sustainable-investment-framework.pdf).

Our elected proxy voting advisor(s) and/or investment managers who manage the voting process on our behalf will provide a written summary of all proxy votes on all fund assets on an annual basis.

Our elected proxy voting advisor(s) will provide each year a written summary of changes to its voting guidelines for the ensuing year. The Office of the Chief Investment Officer will inform the elected proxy voting advisor(s) and/or its investment managers where specific guidelines deviate from the priorities of the Office of the Chief Investment Officer and will work with the proxy voting advisor(s) and/or investment managers to reconcile these differences as practicable/possible.

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

- ~~1. In general, but with certain exceptions, proxy issues that are of a routine business management nature, such as election of directors and appointment of auditors, are voted in accordance with the recommendations of management.~~
- ~~2. Other issues will be reviewed case by case and are generally voted according to existing Chief Investment Officer's Proxy Guidelines (see Exhibit I).~~
- ~~3. For all shares in the Russell 3000 Index portfolio managed by State Street Global Advisors (SSGA), the manager will vote proxies in accordance with the Chief Investment Officer's Proxy Guidelines.~~
- ~~4. For all shares in the MSCI EAFE Index fund, SSGA will vote proxies in accordance with SSGA's Proxy voting policy, incorporated by reference.~~
- ~~5. If the Chief Investment Officer's Proxy Guidelines conflict with those of SSGA, those of the Chief Investment Officer shall have precedence.~~
- ~~6. SSGA may use a third party organization, such as Institutional Shareholder Services (ISS) to manage the voting process and will provide a written summary of all proxy votes on all Fund assets on an annual basis.~~
- ~~7. For all shares in external managers' portfolios, the Chief Investment Officer will appoint a third party organization, such as Institutional Shareholder Services (ISS), to vote all proxies in accordance with the Chief Investment Officer's Proxy Guidelines, and to provide a written summary of all proxy votes on all Fund assets on an annual basis.~~

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

APPENDIX 5 – EXHIBIT I

OFFICE OF THE CHIEF INVESTMENT OFFICER GUIDELINES FOR PROXY VOTING

Note: These are general guidelines with broad application. ~~Company specific issues, such as past performance, shareholder responsiveness, etc. may result in a deviation from the standard recommendation.~~

I. Social Issues

~~Issues that are controversial or relate to social issues (i.e., tobacco issues, animal testing, military contracts, etc.) are reviewed on a case-by-case basis in light of their potential long-term economic impact on shareholders, along with ongoing review of company codes of conduct and social responsibility, any existing UC policies, and the advice of independent proxy monitor services. This may result in a vote against management if the company is not reasonably responsive to shareholder concerns.~~

II. Corporate Governance

~~A. Classified Board (or staggered board proposals): The Chief Investment Officer recommends annual elections for directors and that classified boards not be allowed, as they tend to entrench management.~~

~~B. Cumulative voting or restoration of cumulative voting issues: In general, the Chief Investment Officer recommends a vote in favor of cumulative voting. California law allows companies incorporated in the state to eliminate cumulative voting with shareholder vote.~~

~~C. Preemptive Rights or restoration of limited preemptive rights: The Chief Investment Officer recommends a vote in favor, as this is normally good for shareholders.~~

~~D. Confidential Voting Issues: The Chief Investment Officer recommends a vote with management, as existing voting safeguards are normally adequate to protect shareholder interests.~~

~~E. Authorization of blank check preferred (poison pill): The Chief Investment Officer recommends a vote against these anti-takeover measures as they overtly entrench management and have specific anti-takeover intent.~~

~~F. Fair price super-majority proposals: The Chief Investment Officer recommends a vote against supermajority proposals of 85 percent or more.~~

~~G. Golden Parachutes: Although the Chief Investment Officer recommends a vote against these incentives for management when they provide overly rich rewards for executives upon a takeover of the company, they should be assessed on a case-by-case basis with that negative criterion in mind.~~

III. Compensation Issues

~~A. Stock option plans resulting in over 10 percent dilution shall be examined on a case-by-case basis to determine the dilution in the context of the peer group and norms. Plans with excessive dilution may be voted against.~~

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

~~B. Stock options for non-employee directors are examined on a case-by-case basis. Excessively rich plans for non-employee directors, where the annual payments exceed the average for its peer group may be voted against.~~

~~C. Compensation for non-employee directors, which take the form of retirement payments, is normally voted against.~~

~~D. Exchanging underwater options (granting lower priced options to replace higher priced options) issues are normally voted against.~~

~~E. Granting stock options to executives to be exercised at less than fair market value is normally voted against.~~

~~F. Employee stock purchase plans normally are voted in favor as they involve a purchase of common shares at 15 percent of market value through payroll deduction. Plans at discounts of more than 85 percent (although there are very few) are examined on a case-by-case basis.~~

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 6

This version: November 15, 2012

Last approved: August 16, 2005

**INVESTMENT MANAGER
SELECTION, OVERSIGHT, REVIEW, AND TERMINATION**

When selecting investment managers, the Chief Investment Officer will:

- Follow a due-diligence process to make prudent selections of investment managers. The due-diligence process will involve analyzing investment manager candidates in terms of certain:
 - **Qualitative Characteristics**, such as key personnel, investment philosophy, investment strategy, research orientation, decision-making process, and risk controls.
 - **Quantitative Characteristics**, such as CFA Institute-compliant composite return data, risk-adjusted rates of return (e.g., information ratios), and other risk factors.
 - **Organizational Factors**, such as type and size of firm, ownership structure, client-servicing capabilities, record of gaining and keeping clients, and fees.Other factors will be considered as part of the due-diligence process as facts and circumstances warrant.
- Use third-party database(s) to access appropriate screening information and ensure an unbiased and objective search process.
- With respect to qualified retirement plans, select only entities that meet the definition of “investment manager” under Section 3(38) of ERISA (a bank, insurance company, or investment adviser registered under the Investment Advisers Act of 1940).

A key aspect of a prudent investment program is the designation of a performance benchmark for each investment manager. This benchmark should be specified in writing, and should satisfy the same set of quality criteria as stated for asset class benchmarks in [Appendix 1](#), section B. In addition, the benchmark for an actively managed portfolio should also satisfy the criteria of Ownership: the investment manager should be aware of and accept accountability for the constituents and performance of the benchmark. It is encouraged that the benchmark be embedded in and integral to the investment process and procedures of the investment manager.

Investment managers will provide to the Chief Investment Officer the following:

- A monthly performance statement for the portfolio (gross and net) and the benchmark. Also include the gross performance for the product Composite at least quarterly
- If available, a monthly or quarterly forecast risk report, using the investment manager’s risk system, showing the total, systematic (“common factor”), and non-systematic (“residual”) risk of the portfolio relative to the benchmark
- A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences
- A quarterly review of portfolio and strategy performance including a market outlook
- An annual statement of compliance with investment guidelines
- Any other items specified by the appropriate guidelines under the Policy

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

In order to ensure that thorough and consistent manager oversight is carried out on a regular basis, it is the intent of the Chief Investment Officer to meet with each investment manager once each calendar year, and no less than once every eighteen months. In addition to the investment performance review listed above, several other issues will be reviewed. These include brokerage commissions, account turnover, personnel turnover, client service issues, investment guideline compliance and changes in ownership.

The Committee acknowledges that, from time to time, it may be necessary to replace an existing investment manager. Consequently, the following guidelines will govern review and/or termination of investment managers because of qualitative, quantitative, or organizational concerns.

At each quarterly performance evaluation, the Chief Investment Officer will initiate an inquiry should any investment manager not meet the established performance objectives, including:

- Significantly underperform the previously agreed-upon benchmark over the cumulative performance period, with proper adjustment for the manager's active risk.

Additionally, the Chief Investment Officer will initiate an inquiry should any investment manager:

- Undergo significant organizational changes, including departure of key investment professionals;
- Implement significant change in strategy;
- Be involved in material litigation;
- Be involved in an SEC or other securities investigation;
- Be acquired by or acquire another firm.

After reviewing the appropriate qualitative and quantitative information, the Chief Investment Officer may deem it appropriate to terminate, place the investment manager on notice, or to take no action at that time. In cases in which the manager is placed on notice, the manager will be informed of this decision in writing. The manager may be removed from this status upon exhibiting significant organizational and/or performance changes.

Should the investment manager fail to exhibit the desired changes, the Chief Investment Officer will conduct further discussions and analysis to determine if termination is warranted. While a systematic process will be carried out in such instances, the decision to retain or terminate a manager will not be made by a formula and will be made at the discretion of the Chief Investment Officer. It is a judgment that depends on the Chief Investment Officer's confidence in the investment firm to perform in the future.

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7

Effective: May 12, 2016

**ASSET CLASS AND MANAGER
INVESTMENT GUIDELINES**

The general guidelines that apply to all investment managers are:

- a. Subject to constraints and restrictions imposed by the manager guidelines, all decisions regarding sector and security selection, portfolio construction, and timing of purchases and sales are delegated to the investment manager.
- b. The purchase of securities issued by tobacco companies is prohibited in separately managed accounts. The Regents have defined a tobacco company as “a company which derives its revenues from the manufacture and distribution of tobacco products or, if a diversified company, that no other business line contributes more revenues or earnings than tobacco products.” The Chief Investment Officer will determine what constitutes a tobacco company based on standard industry classification of the major index providers (e.g., Russell, MSCI) and communicate this list to investment managers annually and whenever changes occur. The Committee recognizes that the establishment of social investing restrictions limits investment opportunities and should be accompanied by adjusting performance evaluation standards appropriately.
- c. The direct purchase of property owned or a security issued by the University, its subsidiaries and affiliates, is prohibited
- d. The purchase of non-negotiable securities is prohibited in the equity and fixed income asset classes.
- e. The use of derivative securities or contracts to create economic leverage in the portfolio is prohibited. Acceptable and prohibited uses of derivatives are found in the derivatives policy in [Appendix 4](#).
- f. Transactions that involve a broker acting as a "principal," where such broker or an affiliate is also the investment manager, who is making the transaction, are prohibited.
- g. Transactions shall be executed at the lowest possible total cost, which includes commissions, efficiency of execution, and market impact.
- h. Any investment or action with respect to an investment not expressly allowed is prohibited, unless presented to and approved prospectively by the Committee. All guidelines must be adhered to; however, if from time to time a manager shall deem an exception to the guidelines appropriate, the Chief Investment Officer shall seek review and approval by the Committee to make such an exception.

Managers are required to inform the Chief Investment Officer of significant matters pertaining to the investment of GEP assets, including at a minimum, substantive changes in investment strategy and portfolio structure; significant changes in ownership, organizational structure, financial condition or professional staffing; litigation or violation of securities regulations; significant account losses or growth of new business. Managers must inform the Chief Investment Officer in the event of discovering an unintended or involuntary violation of their guidelines or of any of the Policies herein pertaining to them.

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL

INVESTMENT POLICY STATEMENT

Managers are required to submit periodic reports to the Chief Investment Officer summarizing investment activity and strategy, as per Appendices 6 and 7 and individual guidelines. Managers are required to reconcile investment returns with the custodian each month.

Specific guidelines for each major asset class will be found in Appendix 7. Manager guidelines will contain specific provisions to ensure that performance objectives and risk exposures are consistent with their particular investment mandate, which may be a style or subset of their larger asset class. However, all individual manager guidelines will be consistent with broad asset class guidelines and this Policy.

Restrictions

The Managers may **not**

- Purchase securities of tobacco related companies, as per the Policy.
- Lend securities
- Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities (Fixed Income)
- Purchase equity securities (other than preferred stock) or commodities or their derivatives (Fixed Income)
- Purchase commodities or commodity derivatives
- Purchase fixed income securities except for cash equivalents and margin requirements as part of a portable alpha strategy (Public Equity)
- Buy party-in-interest securities
- Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted
- Employ economic leverage in the portfolio through borrowing or derivatives
- Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times

Other Constraints and Considerations

- Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.
- Managers shall act solely in the interests of the Fund's constituents.
- Implementation of this Program shall comply with the Fund's Policy.

Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.

Managing Cash Flows

The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.

Evaluation and Review

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

a. Policy and Guideline Review

The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.

b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.

Reporting

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- a. A performance attribution explaining differences in sector weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.
- b. A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.
- c. A summary of individual manager performance, on an absolute and benchmark relative basis.

Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- a. A monthly performance statement for the portfolio (gross and net) and the benchmark, and provide the gross performance for the product Composite at least quarterly.
- b. If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.
- c. A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.
- d. A quarterly review of portfolio and strategy performance including a market outlook.
- e. An annual statement of compliance with investment guidelines.

Definitions: See Appendix 8

Asset Class Guidelines

- 7A) U.S. Equity Guidelines
- 7B) Developed Market Non US Equity Guidelines
- 7C) Emerging Market Equity Guidelines
- 7D) Global Equity Guidelines
- 7E) Long Duration Fixed Income Guidelines
- 7F) Core Fixed Income Guidelines

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

- 7G) TIPS (Treasury Inflation Protected Securities) Guidelines
 - 7H) Non Dollar Denominated Fixed Income Guidelines
 - 7I) High Yield Fixed Income Guidelines
 - 7J) Emerging Market Debt Guidelines
 - 7K) STIP Guidelines
 - 7L) Private Equity Guidelines
 - 7M) Private Real Estate Guidelines
 - 7N) Public Real Estate Guidelines
 - 7O) Absolute Return Strategies Guidelines
 - 7P) Real Assets Investment Guidelines
 - 7Q) Limits on the Size of Investments with Public Equity and Fixed Income Managers
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**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7A

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**U.S. EQUITY
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the U.S. Equity allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in common stocks of US companies which exceeds the return on the broad US equity market, measured by the Russell 3000 Tobacco Free Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the broad equity market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 250 basis points. Each Manager will have a unique active risk budget, relative to its style benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL

INVESTMENT POLICY STATEMENT

e. ~~Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity-related securities at all times. Any cash or held by Managers for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivatives contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of common stocks that are listed on national securities exchanges. These common stocks shall be predominantly of companies domiciled in the United States, or which derive the majority of their sales and earnings from the United States. Managers may also invest in stocks that are traded over-the-counter and in other equity-related securities and private placements as limited in their guidelines. Subject to limitations in their guidelines, Managers may also obtain equity exposure through their own specialty commingled funds.

Use of and limits on equity derivative securities by individual managers must be specified in writing in their guidelines and must be consistent with the Derivatives Policy, Appendix 4.

Nothing in these guidelines shall be construed to restrict the use of diversified global equity strategies (consisting of equities of U.S. and Non-U.S. domiciled companies). The Chief Investment Officer shall ensure that such strategies are consistent with both these guidelines and the guidelines of the Non-U.S. equity Program, and the Manager(s)' guidelines will be structured to ensure that performance and risk objectives for both equity classes are met.

e. ~~Restrictions~~

~~The Managers may not~~

- ~~• Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~• Lend securities~~
- ~~• Purchase commodities or commodity derivatives~~
- ~~• Purchase fixed income securities except for cash equivalents and margin requirements as part of a portable alpha strategy~~
- ~~• Buy party in interest securities~~
- ~~• Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted~~
- ~~• Employ economic leverage in the portfolio through borrowing or derivatives~~
- ~~• Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times~~

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL

INVESTMENT POLICY STATEMENT

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures. The following limitations apply:

- The Program's beta with respect to the Benchmark will deviate from the benchmark and typically not be significantly different from 1.0~~range from 0.8 to 1.1~~, as measured over the most recent 12 month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.
- The aggregate holdings of any security may not exceed 4.97.5%~~4.97.5%~~ of that security's outstanding shares.
- No investment with any single manager can represent more than 1220%~~1220%~~ of the total Program's assets. Passive (i.e., index replicating) managers are not subject to this limitation.

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

f. Managing Cash Flows

~~The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.~~

~~3. Evaluation and Review~~

a. Policy and Guideline Review

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. Reporting~~

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~d. — A performance attribution explaining differences in sector weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~e. — A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~f. — A summary of individual manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~f. — A monthly performance statement for the portfolio (gross and net) and the benchmark, and provide the gross performance for the product Composite at least quarterly.~~
- ~~g. — If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.~~
- ~~h. — A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~i. — A quarterly review of portfolio and strategy performance including a market outlook.~~
- ~~j. — An annual statement of compliance with investment guidelines.~~

5. — Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7B

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**DEVELOPED MARKET NON U.S. EQUITY
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Developed Market Non U.S. Equity allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in common stocks of Non US domiciled, developed market companies which exceeds the return of the MSCI World ex-US (Net Dividends) Tobacco Free Index (“Benchmark”), while maintaining risk similar to that of the Benchmark. The Benchmark shall be unhedged. (See part (e) below.)

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the broad equity market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 300 basis points. Each Manager will have a unique active risk budget, relative to its style

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. Currency Risk

The Committee accepts that as a US dollar denominated investor, investing in Non US developed markets equity implicitly involves currency risk. The Committee accepts this additional risk or volatility as part of the asset class and has adopted an “unhedged” performance benchmark. An unhedged benchmark is a benchmark in which the underlying securities’ returns are translated from their local currency back to US dollars at each measurement date.

However, this general policy toward currency risk shall not prevent individual Managers from fully or partially hedging or otherwise actively managing the currency risk in their portfolios (subject to their individual guidelines). Nor shall it prevent the Chief Investment Officer from employing currency overlay managers to manage the currency risk of the aggregate portfolio.

The contribution to active risk resulting from the aggregate of active currency management, whether by Managers or by the Chief Investment Officer’s overlay managers, shall be included in the total tracking error and be subject to limitations above and to the Retirement Fund’s overall risk budget as described in Appendix 2.

f. ~~Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interests of the Fund’s constituents.~~
- ~~• Implementation of this Program shall comply with the Fund’s Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity related securities at all times. Any cash held by Managers for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivative contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of common stocks that are listed on national securities exchanges. These common stocks shall be predominantly of developed market companies domiciled outside the United States, or which derive the majority of their sales and earnings from countries outside the United States. Managers may also invest in stocks that are traded over-the-counter and in other equity-related securities and private placements as limited in their guidelines. Subject to limitations in their guidelines, Managers may also obtain equity exposure through their own specialty commingled funds.

Managers may use currency futures, forward contracts, or options to manage currency risk and hedge existing equity exposures. Use of and limits on equity derivative securities by individual managers must be specified in writing in their guidelines and must be consistent with the Derivatives Policy, Appendix 4.

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

Nothing in these guidelines shall be construed to restrict the use of diversified global equity strategies (consisting of equities of U.S. and Non-U.S. domiciled companies). The Chief Investment Officer shall ensure that such strategies are consistent with both these guidelines and the guidelines of the U.S. equity Program, and the Manager(s)' guidelines will be structured to ensure that performance and risk objectives for both equity classes are met.

~~c.~~ Restrictions

~~The Managers may not~~

- ~~• Purchase securities of tobacco related companies, within separately managed accounts, as per the Policy, section 5b.~~
- ~~• Lend securities~~
- ~~• Purchase commodities or commodity derivatives within separately managed accounts~~
- ~~• Purchase fixed income securities except for cash equivalents and margin requirements as part of a portable alpha strategy~~
- ~~• Buy party in interest securities~~
- ~~• Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted~~
- ~~• Employ economic leverage in the portfolio through borrowing or derivatives~~
- ~~• Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times~~

~~dc.~~ Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures, including country allocation, industry allocation, and currency. The following limitations apply:

- The Program's beta with respect to the Benchmark will deviate from the benchmark and typically not be significantly different from 1.0~~range from 0.8 to 1.1~~, as measured over the most recent 12 month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.
- The aggregate holdings of any security may not exceed ~~4.9~~7.5% of that security's outstanding shares.
- No investment with any single manager can represent more than ~~12~~20% of the total Program's assets. Passive (i.e., index replicating) managers are not subject to this limitation.

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL

INVESTMENT POLICY STATEMENT

~~e. — Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.~~

3. — Evaluation and Review

~~a. — Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. — Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4. — Reporting

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- ~~a. — A performance attribution explaining differences in sector, country, and currency weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. — A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. — A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- ~~a. — A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- ~~b. — If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- ~~c. — A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. — A quarterly review of portfolio and strategy performance including a market outlook~~
- ~~e. — An annual statement of compliance with investment guidelines~~

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

5. ~~Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7C

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**EMERGING MARKET NON U.S. EQUITY
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Emerging Market Non U.S. Equity allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in common stocks of emerging market domiciled companies which exceeds the return on the MSCI Emerging Market (Net Dividends) Index (“Benchmark”), while maintaining risk similar to that of the Benchmark. The Benchmark shall be unhedged. (See part (e) below.)

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the broad equity market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 400 basis points. Each Manager will have a unique active risk budget, relative to its style benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

e. Currency Risk

The Committee accepts that as a US dollar denominated investor, investing in Emerging Markets equity implicitly involves currency risk. The Committee accepts this additional risk or volatility as part of the asset class and has adopted an “unhedged” performance benchmark. An unhedged benchmark is a benchmark in which the underlying securities’ returns are translated from their local currency back to US dollars at each measurement date.

However, this general policy toward currency risk shall not prevent individual Managers from fully or partially hedging or otherwise actively managing the currency risk in their portfolios (subject to their individual guidelines). Nor shall it prevent the Chief Investment Officer from employing currency overlay managers to manage the currency risk of the aggregate portfolio.

The contribution to active risk resulting from the aggregate of active currency management, whether by Managers or by the Chief Investment Officer’s overlay managers, shall be included in the total tracking error and be subject to limitations above and to the Retirement Fund’s overall risk budget as described in Appendix 2.

f. ~~Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interests of the Fund’s constituents.~~
- ~~• Implementation of this Program shall comply with the Fund’s Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity related securities at all times. Any cash held by Managers for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivatives contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of common stocks that are listed on national securities exchanges. These common stocks shall be predominantly of companies domiciled in emerging market countries. Managers may also invest in stocks that are traded over-the-counter and in other equity-related securities and private placements as limited in their guidelines. Subject to limitations in their guidelines, Managers may obtain equity exposure through their own specialty commingled funds.

Managers may use currency futures, forward contracts, or options to manage currency risk and hedge existing equity exposures. Use of and limits on equity derivative securities by individual managers must be specified in writing in their guidelines and must be consistent with the Derivatives Policy, Appendix 4.

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

e. Restrictions

The Managers may **not**

- ~~Purchase securities of tobacco-related companies, within separately managed accounts, as per the Policy, section 5b.~~
- ~~Lend securities~~
- ~~Purchase commodities or commodity derivatives, within separately managed accounts~~
- ~~Purchase fixed income securities within separately managed accounts, except for cash equivalents and margin requirements as part of a portable alpha strategy, or in lieu of the same company's equity securities~~
- ~~Buy party in interest securities~~
- ~~Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives~~
- ~~Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times~~

dc. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures, including country allocation, industry allocation, and currency. The following limitations apply:

- The Program's beta with respect to the Benchmark will deviate from the benchmark and typically not be significantly different from 1.0 ~~range from 0.8 to 1.1~~, as measured over the most recent 12 month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.
- The aggregate holdings of any security may not exceed ~~4.9~~7.5% of that security's outstanding shares.
- No investment with any single manager can represent more than ~~15~~20% of the total Program's assets. Passive (i.e., index replicating) managers are not subject to this limitation.

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

f. Managing Cash Flows

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The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.

3. ~~Evaluation and Review~~

a. ~~Policy and Guideline Review~~

The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.

b. ~~Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4. ~~Reporting~~

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- a. ~~A performance attribution explaining differences in sector, country, and currency weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- b. ~~A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- c. ~~A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- a. ~~A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- b. ~~If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- c. ~~A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- d. ~~A quarterly review of portfolio and strategy performance including a market outlook~~
- e. ~~An annual statement of compliance with investment guidelines~~

5. ~~Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7D

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~March 19, 2008~~ November 15, 2012

**GLOBAL EQUITY
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Global Equity allocation of the Fund (“the Program”). Wherever appropriate, these guidelines and objectives are consistent with guidelines for other Public Equity classes. These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in common stocks which exceeds the return on the global equity market, measured by the MSCI All Country World Index (ACWI) Investable Market Tobacco Free (Net Dividends) Index (“Benchmark”), while maintaining risk similar to that of the Benchmark. The Benchmark shall be unhedged. (See part (e) below.)

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the global equity market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 400 basis points. Each Manager will have a unique active risk budget, relative to its style

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benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. Currency Risk

The Committee accepts that as a US dollar denominated investor, investing in Global equity implicitly involves currency risk. The Committee accepts this additional risk or volatility as part of the asset class and has adopted an “unhedged” performance benchmark. An unhedged benchmark is a benchmark in which the underlying securities’ returns are translated from their local currency back to US dollars at each measurement date.

However, this general policy toward currency risk shall not prevent individual Managers from fully or partially hedging or otherwise actively managing the currency risk in their portfolios (subject to their individual guidelines). Nor shall it prevent the Chief Investment Officer from employing currency overlay managers to manage the currency risk of the aggregate portfolio.

The contribution to active risk resulting from the aggregate of active currency management, whether by Managers or by the Chief Investment Officer’s overlay managers, shall be included in the total tracking error and be subject to limitations above and to the Retirement Fund’s overall risk budget as described in Appendix 2.

~~f. Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund’s constituents.~~
- ~~• Implementation of this Program shall comply with the Fund’s Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity-related securities at all times. Any cash or held by Managers for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivatives contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of common stocks that are listed on national securities exchanges. Managers may also invest in stocks that are traded over-the-counter and in other equity-related securities (such as ETFs) and private placements as limited in their guidelines. Subject to limitations in their guidelines, Managers may also obtain equity exposure through their own specialty commingled funds.

Managers may use currency futures, forward contracts, or options to manage currency risk and hedge existing equity exposures. Use of and limits on currency and equity derivative securities by managers must be specified in writing in their guidelines and must be consistent with the Derivatives Policy, Appendix 4.

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e. ~~Restrictions~~

The Managers may ~~not~~

- ~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~Lend securities~~
- ~~Purchase commodities or commodity derivatives~~
- ~~Purchase fixed income securities except for cash equivalents and margin requirements as part of a portable alpha strategy~~
- ~~Buy party in interest securities~~
- ~~Buy lettered, legend, or other restricted stock, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives~~
- ~~Employ gross leverage in their portfolio in excess of 300% of the market value of the portfolio, at all times~~

dc. ~~Diversification and Concentration~~

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures. The following limitations apply:

- The Program's beta with respect to the Benchmark will deviate from the benchmark and typically not be significantly different from 1.0~~range from 0.8 to 1.1~~, as measured over the most recent 12 month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.
- The aggregate holdings of any security may not exceed 4.97.5%~~4.97.5%~~ of that security's outstanding shares.
- No investment with any single manager can represent more than 4520%~~4520%~~ of the total Program's assets. Passive (i.e., index replicating) managers are not subject to this limitation.

It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

f. ~~Managing Cash Flows~~

~~The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.~~

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

3. ~~Evaluation and Review~~

a. ~~Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4. ~~Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. A performance attribution explaining differences in sector, currency, and country weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. A summary of individual manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. A monthly performance statement for the portfolio (gross and net) and the benchmark, and provide the gross performance for the product Composite at least quarterly.~~
- ~~b. If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.~~
- ~~c. A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. A quarterly review of portfolio and strategy performance including a market outlook.~~
- ~~e. An annual statement of compliance with investment guidelines.~~

5. ~~Definitions: See Appendix 8~~

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7E

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**LONG DURATION FIXED INCOME
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Long Duration Fixed Income allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in US dollar denominated bonds which exceeds the return on the long duration US fixed income market, as measured by the Citigroup Large Pension Fund Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by the Chief Investment Officer’s internal fixed income staff, and may be supplemented by hiring multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each strategy will focus on a subset of the broad fixed income market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all fixed income portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 150 basis points. Each Manager will have a unique active risk budget, relative to its style

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INVESTMENT POLICY STATEMENT

benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. ~~Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested **primarily** in marketable, publicly traded, investment grade fixed income instruments, notes and debentures denominated in U.S. dollars.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions noted below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, subject to the restrictions in 2c. and 2d. below.

1. Fixed income instruments

- a. Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies
- b. Obligations of U.S. and foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
- c. Mortgage-backed and asset-backed securities, including CMBS, mortgage TBA²s, and other MBS derivatives, including CMO²s, REMICS, IO²s, and PO²s
- d. CBO²s, CLO²s, and CDO²s
- e. Obligations of international agencies, supranational entities, and foreign governments (or their subdivisions or agencies), as well as foreign currency linked securities, warrants, preferred stocks and forward contracts.
- f. Obligations issued or guaranteed by U.S. local, city and state governments and agencies
- g. Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments

- a. US Treasury and Agency bills and notes
- b. Certificates of deposit
- c. Bankers acceptances
- d. Commercial paper

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- e. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
 - f. Eurodollar CD²s, TD²s, and commercial paper
 - g. US and Eurodollar floating rate notes
 - h. Money market funds managed by the Custodian
 - i. Short Term Investment Pool (STIP), managed by the Chief Investment Officer
3. Fixed income derivatives
- a. US Treasury, Agency, and Eurodollar futures
 - b. Interest rate options, swaps, and swaptions
 - c. Credit default swaps (CDS) and their derivatives
 - d. Foreign currency forward contracts and options
 - e. Inflation linked futures and swaps
 - f. Total rate of return swaps

e. Restrictions

The Managers may **not**

- ~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~Purchase equity securities (other than preferred stock) or commodities or their derivatives~~
- ~~Buy party in interest securities~~
- ~~Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~
- ~~Purchase or sell foreign exchange contracts for any purpose other than hedging their portfolio exposures~~

dc. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than 10% of the Program's investments, measured by market value, should be below "investment grade", i.e. rated lower than the following standards or their equivalent by all major NRSRO's
 - Standard & Poor's and Fitch (BBB-)
 - Moody's (Baa3)
 - Commercial Paper must have a rating of at least A-1, P-1, D-1, or F-1

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- The Program's investments should exhibit an average credit quality of A (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSRO's
- Except for securities issued by the US Treasury or Agencies of the US Government, no more than 3% of the Program's market value may be invested in any single issuer.
- **Liquidity risk**
 - No more than 20% of the Program's market value may be invested in Private Placements or Rule 144A securities.
 - The Program's investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Foreign exchange risk**
 - No more than 10% of the Program market value can be invested in securities denominated in currencies other than US dollar.
- **Asset allocation risk**
 - The Program's investments in aggregate may overweight or underweight Core sectors so that the Core sector contribution to portfolio effective duration is within +/- 50% of the corresponding Benchmark core sector contribution to portfolio effective duration. [Core sectors are defined as Government Sponsored, Credit, and Collateral.]
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~Managers may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

3.——Evaluation and Review

a.——Policy and Guideline Review

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b.——Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4.——Reporting

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a.——A performance attribution explaining differences in sector weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b.——A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c.——A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a.——A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- ~~b.——If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- ~~c.——A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d.——A quarterly review of portfolio and strategy performance including a market outlook~~
- ~~e.——An annual statement of compliance with investment guidelines~~

5.——Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7F

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**CORE FIXED INCOME
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Core Fixed Income allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in US dollar denominated bonds which exceeds the return on the aggregate US fixed income market, as measured by the Barclays Capital US Aggregate Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by the Chief Investment Officer’s internal fixed income staff, and may be supplemented by hiring multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each Manager’s strategy will focus on a subset of the broad fixed income market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all fixed income portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 100 basis points. Each Manager will have a unique active risk budget, relative to its style

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benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

~~e. Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, investment grade fixed income instruments, notes and debentures denominated in U.S. dollars.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions as noted in general asset class and manager guidelines below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, ~~subject to the restrictions in 2c. and 2d. below.~~

1. Fixed income instruments

- Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies
- Obligations of U.S. and foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
- Mortgage-backed and asset-backed securities, including CMBS, mortgage TBA²s, and other MBS derivatives, including CMO²s, REMICS, IO²s, and PO²s
- CBO²s, CLO²s, and CDO²s
- Obligations of international agencies, supranational entities, and foreign governments (or their subdivisions or agencies), as well as foreign currency linked securities, warrants, preferred stocks and forward contracts.
- Obligations issued or guaranteed by U.S. local, city and state governments and agencies
- Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments

- US Treasury and Agency bills and notes
- Certificates of deposit
- Bankers acceptances

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- d. Commercial paper
 - e. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
 - f. Eurodollar CD²s, TD²s, and commercial paper
 - g. US and Eurodollar floating rate notes
 - h. Money market funds managed by the Custodian
 - i. Short Term Investment Pool (STIP), managed by the Chief Investment Officer
3. Fixed income derivatives
- a. US Treasury, Agency, and Eurodollar futures
 - b. Interest rate options, swaps, and swaptions
 - c. Credit default swaps (CDS) and their derivatives
 - d. Foreign currency forward contracts and options
 - e. Inflation linked futures and swaps
 - f. Total rate of return swaps

~~e. Restrictions~~

~~The Managers may not~~

- ~~• Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~• Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~• Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~• Purchase equity securities (other than preferred stock) or commodities or their derivatives~~
- ~~• Buy party in interest securities~~
- ~~• Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~• Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~
- ~~• Purchase or sell foreign exchange contracts for any purpose other than hedging their portfolio exposures~~

dc. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-~~20~~50%.
- **Credit risk**
 - No more than ~~40~~15% of the Program's investments, measured by market value, should be below "investment grade", i.e. rated lower than the following standards or their equivalent by all major NRSRO's
 - Standard & Poor's and Fitch (BBB-)
 - Moody's (Baa3)
 - Commercial Paper must have a rating of at least A-1, P-1, D-1, or F-1

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- The Program's investments should exhibit an average credit quality of A₋ (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSRO's
- Except for securities issued by the US Treasury or Agencies of the US Government, no more than 3% of the Program's market value may be invested in any single issuer.
- **Liquidity risk**
 - No more than 20% of the Program's market value may be invested in Private Placements or Rule 144A securities.
 - The Program's investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Foreign exchange risk**
 - No more than 10% of the Program market value can be invested in securities denominated in currencies other than US dollar.
- **Asset allocation risk**
 - The Program's investments in aggregate may overweight or underweight Core sectors so that the Core sector contribution to portfolio effective duration is within +/- 50% of the corresponding Benchmark core sector contribution to portfolio effective duration. [Core sectors are defined as Government Sponsored, Credit, and Collateral.]
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~Managers may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL INVESTMENT POLICY STATEMENT

3.——Evaluation and Review

a.——Policy and Guideline Review

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b.——Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4.——Reporting

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a.——A performance attribution explaining differences in sector weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b.——A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c.——A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a.——A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- ~~b.——If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- ~~c.——A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d.——A quarterly review of portfolio and strategy performance including a market outlook~~
- ~~e.——An annual statement of compliance with investment guidelines~~

5.——Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7G

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~May 6, 2009~~ November 15, 2012

**TIPS (TREASURY INFLATION PROTECTED SECURITIES)
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the TIPS allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in US Government issued, dollar denominated, inflation protected bonds which exceeds the return on the Barclays ~~Capital~~ US TIPS Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be managed by the Chief Investment Officer’s internal fixed income staff (“Manager”). The Chief Investment Officer will monitor whether the Program adheres to these Guidelines, and in particular achieves the performance and risk objectives stated below.

c. Performance Objectives

The performance objective of the Program is to exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 200 basis points.

e. Other Constraints and Considerations

- ~~Manager shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~Manager shall act solely in the interest of the Fund’s constituents.~~
- ~~Implementation of this Program shall comply with the Fund’s Policy.~~

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

2. Investment Guidelines

a. Asset Allocation / Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions noted below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, ~~subject to the restrictions in 2c. and 2d. below.~~

1. Fixed income instruments
 - a. US Treasury Inflation Protected Securities
 - b. US Treasury nominal bonds and notes
 - c. Non-US sovereign inflation linked bonds (G10 countries only)
 - d. Corporate issued inflation linked bonds
2. Short term fixed income instruments
 - a. US Treasury bills and notes
 - b. Money market funds managed by the Custodian
 - c. Short Term Investment Pool (STIP), managed by the Chief Investment Officer
3. Fixed income derivatives
 - a. US Treasury and Eurodollar futures
 - b. Foreign currency forward contracts and options
 - c. Inflation linked futures and swaps
 - d. Total rate of return swaps

b. Restrictions

The Manager may **not**

- Purchase securities of tobacco related companies, as per the Policy, section 5b.
- Invest in mutual funds or group trusts unless specifically allowed in their guidelines
- Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities
- Purchase equity securities or commodities or their derivatives
- Buy party-in-interest securities
- Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted
- Employ leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy
- Purchase or sell foreign exchange contracts for any purpose other than hedging their portfolio exposures

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c. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than 10% of the Program's investments, measured by market value, may be issued by non sovereign issuers
 - No more than 3% of the Program's market value may be invested in any single non sovereign issuer
- **Foreign exchange risk**
 - No more than 10% of the Program market value may be invested in securities denominated in currencies other than US dollar
 - All securities denominated in currencies other than US dollar must be currency hedged back to US dollar

d. Managing Cash Flows

~~Manager may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

~~3. Evaluation and Review~~

a. Policy and Guideline Review

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program.~~

~~4. Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. A summary of Program investments and risks.~~
- ~~b. A summary of Program performance, on an absolute and benchmark relative basis.~~

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~~Manager will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. Monthly accounting statements showing portfolio income, holdings and transactions~~
- ~~b. Quarterly review of portfolio and strategy performance including a market outlook~~
- ~~c. Annual statement of compliance with investment guidelines~~

5. Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7H

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**NON DOLLAR DENOMINATED FIXED INCOME
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Non Dollar Denominated Fixed Income allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in Non-US dollar denominated bonds which exceeds the return on the Non Dollar denominated global fixed income market, as measured by the Citigroup World Government Bond–ex U.S Index. (“Benchmark”), while maintaining risk similar to that of the Benchmark. The Benchmark shall be unhedged. (See part (e) below.)

b. Investment Strategy

The Program shall be implemented by a combination of the Chief Investment Officer’s internal fixed income staff and multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each Manager’s strategy will focus on a subset of the Non US dollar denominated fixed income market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all Non US dollar denominated fixed income portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, (benchmark), which is appropriate to its individual strategy, and specified in its guidelines.

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d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 200 basis points. Each Manager will have a unique active risk budget, relative to its specific benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. Currency Risk

The Committee accepts that as a US dollar denominated investor, investing in Non US dollar denominated bonds implicitly involves currency risk. The Committee accepts this additional risk or volatility as part of the asset class and has adopted an “unhedged” performance benchmark. An unhedged benchmark is a benchmark in which the underlying securities’ returns are translated from their local currency back to US dollars at each measurement date.

However, this general policy toward currency risk shall not prevent individual Managers from fully or partially hedging or otherwise actively managing the currency risk in their portfolios (subject to their individual guidelines). Nor shall it prevent the Chief Investment Officer from employing currency overlay managers to manage the currency risk of the aggregate portfolio.

The contribution to active risk resulting from the aggregate of active currency management, whether by Managers or by the Chief Investment Officer’s overlay managers, shall be included in the total tracking error and be subject to limitations above and to the Retirement Fund’s overall risk budget as described in Appendix 2.

f. ~~Other Constraints and Considerations~~

- ~~Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~Managers shall act solely in the interest of the Fund’s constituents.~~
- ~~Implementation of this Program shall comply with the Fund’s Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, investment grade fixed income instruments, notes and debentures issued by developed market countries other than the U.S. and denominated in currencies other than U.S. dollars.

Nothing in these guidelines shall be construed to restrict the use of diversified global fixed income strategies (consisting of bonds denominated in both US and Non-US currencies). The Chief Investment Officer shall ensure that such strategies are consistent with both these guidelines and the guidelines of the other fixed income Programs, and may develop separate guidelines for such strategies to ensure that performance and risk objectives for all fixed income classes are met.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions as noted in general asset

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~~class and manager guidelines below in section 2c and 2d.~~ For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, ~~subject to the restrictions in 2c. and 2d. below.~~

1. Fixed income instruments
 - a. Obligations of foreign governments (or their subdivisions or agencies), international agencies, and supranational entities
 - b. Obligations of U.S. and foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
 - c. Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies
2. Short term fixed income instruments
 - a. US dollar and foreign currencies
 - b. Short term obligations of US and foreign governments
 - c. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
 - d. Eurodollar CD’s and Eurodollar floating rate notes
 - e. Money market funds managed by the Custodian
 - f. Short Term Investment Pool (STIP), managed by the Chief Investment Officer
3. Currency and Fixed income derivatives
 - a. Government bond and other bond index futures
 - b. Interest rate options, swaps, and swaptions
 - c. Single name or basket Credit default swaps (CDS)
 - d. Foreign currency forward contracts and options
 - e. Total rate of return swaps

~~c. Restrictions~~

~~The Managers may not~~

- ~~• Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~• Purchase currencies (or bonds denominated in currencies) not freely convertible to US dollars~~
- ~~• Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~• Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~• Purchase equity securities or commodities or their derivatives~~
- ~~• Buy party in interest securities~~
- ~~• Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~• Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~

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cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than 10% of the Program's investments, measured by market value, should be below "investment grade", i.e. rated lower than the following standards or their equivalent by all major NRSROs
 - Standard & Poor's and Fitch (BBB-)
 - Moody's (Baa3)
 - The Program's investments should exhibit an average credit quality of A (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSROs
 - Except for securities issued by the US Treasury or sovereign entities included in the benchmark, no more than 3% of the Program's market value may be invested in any single issuer.
- **Liquidity risk**
 - The Program's investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Foreign exchange risk**
 - No more than 20% of the Program market value can be invested in securities denominated in currencies other than currencies included in the Benchmark
 - No more than 20% of the Program's net foreign exchange exposure (inclusive of currency overlay managers) can be in currencies not included in the Benchmark
- **Asset allocation risk**
 - The Program's investments in aggregate may overweight or underweight currencies so that each currency's exposure is within +/- 20 percentage points of the corresponding Benchmark currency's exposure for Euro and Yen denominated bonds, and is within +/- 10 percentage points of the corresponding Benchmark currency's exposure for all other currency denominated bonds, including US Dollar. That is, if Euro denominated bonds contribute 50% of the Benchmark, then the Program's Euro bonds exposure should be between 30% and 70%.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers'

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portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

e. ~~Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

f. ~~Managing Cash Flows~~

~~Managers may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

3. ~~Evaluation and Review~~

a. ~~Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

b. ~~Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4. ~~Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

a. ~~A performance attribution explaining differences in country and currency weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~

b. ~~A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~

c. ~~A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

a. ~~A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly.~~

b. ~~If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.~~

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- ~~e. — A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. — A quarterly review of portfolio and strategy performance including a market outlook.~~
- ~~e. — An annual statement of compliance with investment guidelines.~~

~~**5. — Definitions: See Appendix 8**~~

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7I

This Version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~February 14, 2006~~ November 15, 2012

**HIGH YIELD DEBT
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the High Yield Debt allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in high yield US dollar denominated debt which exceeds the return of the non-investment grade fixed income market, as measured by the Merrill Lynch High Yield Cash Pay Index (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by a combination of the Chief Investment Officer’s internal fixed income staff and multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each Manager’s strategy will focus on a subset of the high yield debt market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all high yield debt portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, (benchmark), which is appropriate to its individual strategy, and specified in its guidelines.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 350 basis points. Each Manager will have a unique active risk budget, relative to its specific

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benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

~~e. Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, non-investment grade debt instruments, notes and debentures denominated in U.S. dollars.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions as noted in general asset class and manager guidelines below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of “allowable” investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents’ Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, ~~subject to the restrictions in 2c. and 2d. below.~~

1. Fixed income instruments

- Obligations of U.S. and foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
- Obligations of international agencies, supranational entities, and foreign governments (or their subdivisions or agencies).
- Obligations issued or guaranteed by U.S. local, city and state governments and agencies
- Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments

- US Treasury and Agency bills and notes
- Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
- Money market funds managed by the Custodian
- Short Term Investment Pool (STIP), managed by the Chief Investment Officer

3. Fixed income derivatives

- US Treasury, Agency, and Eurodollar futures
- Interest rate options, swaps, and swaptions
- Credit default swaps (CDS) and their derivatives

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d. Total rate of return swaps

~~c. Restrictions~~

~~The Managers may not~~

- ~~• Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~• Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~• Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~• Sell securities short, except for interest rate futures and options, credit default swaps, and foreign currency forwards and options~~
- ~~• Purchase equity securities or commodities or their derivatives~~
- ~~• Buy party in interest securities~~
- ~~• Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~• Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~
- ~~• Purchase or sell foreign exchange contracts for any purpose other than hedging their portfolio exposures~~

~~cd. Diversification and Concentration~~

~~The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:~~

- ~~• Interest rate risk~~
 - ~~▪ The average weighted spread duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.~~
- ~~• Credit risk~~
 - ~~▪ No more than 10% of the Program's investments, measured by market value, should be rated "in default", i.e. rated lower than the following standards or their equivalent by all major NRSROs~~
 - ~~▪ Standard & Poor's and Fitch (C)~~
 - ~~▪ Moody's (C)~~
 - ~~▪ The Program's investments should exhibit an average credit quality of B- (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSROs~~
 - ~~▪ Except for securities issued by the US Treasury or Agencies of the US Government, no more than 5% of the Program's market value may be invested in any single issuer.~~
- ~~• Liquidity risk~~
 - ~~▪ No more than 3050% of the Program's market value may be invested in Private Placements or Rule 144A securities~~
 - ~~▪ The Program's investments in aggregate of any marketable security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.~~

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- **Foreign exchange risk**
 - No more than 10% of the Program market value can be invested in securities denominated in currencies other than US dollar
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~Managers may use derivatives for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

3. — Evaluation and Review

~~a. — Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. — Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

4. — Reporting

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- ~~a. — A performance attribution explaining differences in sector and quality weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. — A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~

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- ~~e. — A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. — A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly~~
- ~~b. — If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark~~
- ~~c. — A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. — A quarterly review of portfolio and strategy performance including a market outlook~~
- ~~e. — An annual statement of compliance with investment guidelines~~

5. — Definitions: See Appendix 8

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INVESTMENT POLICY STATEMENT**

APPENDIX 7J

This version: ~~Approved November 15, 2012; effective January 1, 2013~~ May 12, 2016

Last approved: ~~July 1, 2008~~ January 1, 2013

**EMERGING MARKET DEBT
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Emerging Market Debt allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in debt of issuers in emerging market countries which exceeds the return on the Benchmark, which is the J.P. Morgan Emerging Markets Bond Index – Global Diversified [hard currency], while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by a combination of the Chief Investment Officer’s internal fixed income staff, and multiple external investment managers (internal and external strategies will be collectively referred to as “Managers”). Each Manager’s strategy will focus on a subset of the emerging market debt universe in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all emerging market debt portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines conflict with the Guidelines for the Program.

c. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees. Each Manager will have a unique objective, (benchmark), which is appropriate to its individual strategy, and specified in its guidelines.

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d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 500 basis points. Each Manager will have a unique active risk budget, relative to its specific benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

e. ~~Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, fixed income instruments, notes and debentures issued by emerging market sovereign or corporate issuers, denominated in U.S. dollars and issuers' local currencies.

b. Types of Securities

The Program will be invested in diversified portfolios of fixed income securities, similar to those in the benchmark, and their derivative securities, subject to restrictions noted below in section 2c and 2d. For a description of the Benchmark see Appendix 8 (Definitions).

The following list is indicative of the securities which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of "allowable" investment securities. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents' Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, subject to the restrictions in 2c. and 2d. below.

1. Fixed income instruments

- Obligations of foreign governments (or their subdivisions or agencies), international agencies, and supranational entities.
- Obligations of foreign corporations such as corporate bonds, convertible and non-convertible notes and debentures, preferred stocks, and bank loans
- Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments

- US Treasury and Agency bills and notes
- Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
- Eurodollar CD's, TD's, and commercial paper
- US and Eurodollar floating rate notes
- Money market funds managed by the Custodian
- Short Term Investment Pool (STIP), managed by the Chief Investment Officer

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3. Fixed income derivatives

- a. US Treasury, Agency, and Eurodollar futures
- b. Interest rate options, swaps, and swaptions
- c. Credit default swaps (CDS) and their derivatives
- d. Foreign currency forward contracts and options
- e. Total rate of return swaps

e. Restrictions

The Managers may **not**:

- ~~Purchase securities of tobacco-related companies, as per the Policy, section 5b.~~
- ~~Invest in mutual funds or group trusts unless specifically allowed in their guidelines~~
- ~~Buy securities on margin, except for futures or swaps, against which are held a risk equivalent amount of cash or liquid securities~~
- ~~Sell securities short, except for interest rate futures and options, credit default swaps, and foreign currency forwards and options~~
- ~~Purchase equity securities or commodities or their derivatives~~
- ~~Buy party in interest securities~~
- ~~Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy~~

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The Program's investments will exhibit portfolio risk characteristics similar to the Benchmark. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - The average weighted effective duration of portfolio security holdings shall not vary from that of the Benchmark index by more +/-20%.
- **Credit risk**
 - No more than ~~20~~50% of the Program's investments, measured by market value, should be rated "B+" (or equivalent) or below by all major NRSROs
 - Standard & Poor's and Fitch (B+)
 - Moody's (B1)
 - The Program's investments should exhibit an average credit quality of BB (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSROs
 - Except for securities issued by the US Treasury or sovereign entities included in the Benchmark, no more than 5% of the Program's market value may be invested in any single issuer, without a written exception approved by the Chief Investment Officer.
- **Liquidity risk**
 - The Program's investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.
- **Asset allocation and Foreign currency risk**

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- The Program's investments in aggregate may overweight or underweight issuer countries (including their currencies) so that each country's exposure is within +/- 20 percentage points of the corresponding Benchmark country's exposure. That is, if Brazilian bonds (including currency) comprise 20% of the total Benchmark, then the Program's Brazilian bond and currency exposure should be between 0% and 40%.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.

It is expected that each Manager's portfolio be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting the Manager's ability to out-perform its benchmark. That is, the Managers' portfolios may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~Managers may use derivatives and foreign exchange forwards for facilitating investment of cash flows related to income received, contributions, withdrawals, or other asset allocation rebalancing. Fixed income exposure, including cash and derivative instruments, shall at all times be equal to the market value of the portfolio. (Leverage is not permitted.)~~

~~3. — Evaluation and Review~~

~~a. — Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. — Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. — Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. — A performance attribution explaining differences in country weights and returns, between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. — A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the~~

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~~aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~

- ~~c. — A summary of individual Manager performance, on an absolute and benchmark relative basis.~~

Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- ~~a. — A monthly performance statement for the portfolio (gross and net) and the benchmark, and also provide the gross performance for the product Composite at least quarterly.~~
- ~~b. — If available, a monthly or quarterly forecast risk report, using the Manager's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the portfolio relative to the benchmark.~~
- ~~c. — A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- ~~d. — A quarterly review of portfolio and strategy performance including a market outlook.~~
- ~~e. — An annual statement of compliance with investment guidelines.~~

5. — Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
INVESTMENT POLICY STATEMENT**

APPENDIX 7K

This version: November 15, 2012

Last approved: September 10, 2009

**SHORT TERM INVESTMENT POOL (STIP)
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the University’s Short Term Investment Pool, or STIP (“Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Background:

The STIP is a cash investment pool established by The Regents and is available to all University groups, including retirement and endowment funds. The STIP allows fund participants to maximize income on their short-term cash balances by taking advantage of the economies of scale of investing in a larger pool and investing in a broader range of maturities.

b. Investment Objective

The Objective of the Program is to maximize returns consistent with safety of principal, liquidity, and cash flow requirements. The primary investment objective is to generate income from investments in short duration US dollar denominated bonds and cash equivalents. Because the liquidity needs of the University are subject to large and uncertain changes, the fund may materially increase its investments in highly liquid, cash equivalent securities from time to time.

Accordingly, the Benchmark will be a weighted average of the income return on a constant maturity two (2) year Treasury note and the return on US 30 day Treasury Bills. The weights for the two constituents will be the actual average weights of the bond and cash equivalent components of the pool. The Benchmark will be re-balanced monthly.

c. Investment Strategy

The Program shall be implemented by the Chief Investment Officer internal fixed income staff (“Manager”). The Chief Investment Officer will monitor the Program’s adherence to these Guidelines.

d. Performance Objectives

The performance objective of the Program is to meet or exceed the return of the Benchmark, on a consistent basis over time, net of all costs and fees.

e. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 75 basis points.

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f. Other Constraints and Considerations

- Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.
- Manager shall act solely in the interest of the Fund's owners.
- Implementation of this Program shall comply with the Fund's Policy.

2. Investment Guidelines

a. Asset Allocation

The portfolio will be invested primarily in marketable, publicly traded, investment grade short term fixed income instruments, notes and debentures denominated in U.S. dollars.

b. Types of Securities

The Program will be invested in a diversified portfolio of fixed income securities, subject to restrictions noted below in section 2c and 2d.

The following list is indicative of the investment classes which are appropriate for the Program, given its Benchmark and risk budget. It should not be construed to be an exhaustive list of "allowable" asset types. Security types and/or strategies not specifically enumerated, but which the Chief Investment Officer and Regents' Investment Consultant believe are appropriate and consistent with the Investment Policy may also be held, subject to the restrictions in 2c. and 2d. below.

1. Fixed income instruments

- a. Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies
- b. Obligations of U.S. and foreign corporations such as corporate bonds, notes and debentures, and bank loans
- c. Mortgage-backed and asset-backed securities
- d. Obligations of international agencies, supranational entities, and foreign governments (or their subdivisions or agencies)
- e. Obligations issued or guaranteed by U.S. local, city and state governments and agencies
- f. Private Placements or Rule 144A securities, issued with or without registration rights

2. Short term fixed income instruments (having maturity of less than 13 months)

- a. US Treasury and Agency bills and notes
- b. Certificates of deposit
- c. Bankers acceptances
- d. Commercial paper
- e. Repurchase and reverse repurchase agreements (must be fully collateralized with approved collateral, using approved counterparties only)
- f. Eurodollar CD's, TD's, and commercial paper
- g. US and Eurodollar floating rate notes
- h. Money market funds managed by the custodian

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c. Restrictions

The following security types are **not** permitted:

- Interest rate derivative contracts, including options and futures
- Equity like securities, including but not limited to convertible bonds, preferred stocks, warrants, equity linked notes, and commodities
- Bonds issued in currencies other than US Dollar
- Foreign currency linked notes

The Manager may **not**:

- Purchase securities of tobacco related companies, as per the Policy, section 5b.
- Invest in mutual funds or group trusts unless specifically allowed in its guidelines
- Buy securities on margin
- Sell securities short
- Buy party-in-interest securities
- Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted
- Employ economic leverage in the portfolio through borrowing or derivatives, or engage in derivative strategies that conflict with the Derivatives Policy
- Purchase or sell foreign exchange contracts

d. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk. The following limitations apply in order to manage risk within acceptable ranges:

- **Interest rate risk**
 - No security may have a maturity of more than 5 ½ years
- **Credit risk**
 - No more than 5% of the Program's investments, measured by market value, should be below "investment grade", i.e. rated lower than the following standards or their equivalent by all major NRSROs
 - Standard & Poor's and Fitch (BBB-)
 - Moody's (Baa3)
 - Commercial Paper must have a rating of at least A-1, P-1, D-1, or F-1
 - The Program's investments should exhibit an average credit quality of A (or equivalent) or better. Split-rated credits are considered to have the higher credit rating as long as the higher rating is given by one of the NRSROs
 - No more than 5% of the Program's allocation to commercial paper may be invested in any single issuer. This guideline may be exceeded on a temporary basis due to unusual cash flows, up to a limit of 10%, for a period not to exceed one month.
 - Except for securities issued by the US Treasury or Agencies of the US Government, no more than 3% of the Program's market value (exclusive of commercial paper) may be invested in any single issuer.
- **Liquidity risk**
 - No more than 10% of the Program's market value may be invested in Private Placements or Rule 144A securities

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- The Programs' investments in aggregate of any security may not exceed 20% of that security's outstanding par value, without a written exception approved by the Chief Investment Officer.

Subject to the limitations above, the investment manager has complete discretion with regard to choosing sector weights, issuers, and maturities.

e. Managers shall employ best execution. Transactions shall be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.

3. Evaluation and Review

a. Policy and Guideline Review

The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.

b. Program performance and risk exposures shall be evaluated at multiple levels in accordance with the Objectives of the Program and individual Managers.

4. Reporting

On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:

- a. A summary of Program investments and risks.
- b. A summary of Program performance, on an absolute and benchmark relative basis.

Manager will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:

- a. Monthly accounting statements showing portfolio income, holdings and transactions.
- b. Quarterly review of portfolio and strategy performance including a market outlook.
- c. Annual statement of compliance with investment guidelines.

5. Definitions: See Appendix 8

**UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
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APPENDIX 7L

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~April 1, 2014~~ November 15, 2012

**PRIVATE EQUITY
INVESTMENT GUIDELINES**

The purpose for portfolio guidelines is to clearly define performance objectives and to control risk. Portfolio guidelines to control risk should be subject to ongoing review.

Performance Objectives:

The objective of the private equity portfolio is to earn a return, after adjusting for risk, that exceeds the Russell 3000 Index return on a consistent basis over time.

Portfolio Guidelines:

1. Permissible investments include limited liability structures such as limited partnerships, limited liability corporations, and other vehicles that invest in venture capital, buyouts, and special situations. Permissible investments will be primarily private market assets, but may include publicly traded assets, and may also include funds of funds, secondaries, co-investments and direct equity investments.
2. Venture Capital investments shall be limited to a maximum of 40 percent of the private equity portfolio's total market value, with a long-term target weight of no more than 20 percent.
3. No single partnership commitment (including co-investments / direct equity investments) can represent, at the time of commitment, more than 5 percent of the current private equity allocation defined as the most recent quarter book value plus unfunded commitments plus target commitment for the current (one) year.
4. Investment in multiple funds of the same general partner is permitted. However, the total commitment to partnerships with the same general partner (including co-investments / direct equity investments), at the time of commitment, cannot exceed 15 percent of the budgeted three year private equity allocation defined as current book value plus unfunded commitments plus commitment level for the current year and two subsequent years.
5. The commitment to any individual partnership is recommended not to exceed 30 percent of the total capital raised by the partnership, up to a maximum of \$150 million. The maximum of 30 percent represents the ownership percentage of the partnership at each closing. Exceptions to this limitation may be made by the Chief Investment Officer.
6. The private equity portfolio should be diversified across time as well.
7. No single co-investment or direct investment company can represent, at the time of commitment, more than \$200-100 million at cost. ~~No single co-investment in the General Endowment Pool can represent, at the time of commitment, more than \$100 million at cost.~~

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8. Use of derivative securities by individual investment managers must be specified in writing in the manager's guidelines and must be consistent with the Derivatives Policy, Appendix 4.

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APPENDIX 7M

This version: ~~November 15, 2012~~ May 12, 2016

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**PRIVATE REAL ESTATE
INVESTMENT GUIDELINES**

The purpose of the real estate investment guidelines is to define the investment objectives, philosophy, and specific guidelines for making investments and the benchmarks to measure performance.

~~These guidelines are applicable to the entire real estate program (“Program”) consisting of investments made on behalf of the UCRP and GEP funds. The allocation of investments between the two funds will be managed by the Chief Investment Officer in accordance with the performance and risk objectives of those funds.~~

Allocations and ranges for the ~~four~~ principal strategies are shown below.

Strategic Allocations		
Strategy	Allocation	Range
REITS	<u>10%</u>	<u>5% - 20%</u>
Core Real Estate	30%	10% - 80% <u>40%</u>
Value-Added Strategies	30%	10% - 50% <u>80%</u>
Opportunistic Strategies	30%	10% - 40% <u>50%</u>
Total	<u>100%</u>	

Core Real Estate, Value Added Strategies, and Opportunistic Strategies constitute “Private Real Estate.” Value Added and Opportunistic strategies together are referred to as “Non-Core.” ~~REITS are discussed in the section “Public Real Estate Securities (Appendix 7N).” The term “Program” will be interpreted in the context of private or public real estate.~~

Investment Guidelines

1. The benchmark for evaluating the Program’s investment performance will be the National Council of Real Estate Investment Fiduciaries (NCREIF) Funds Index – Open-end Diversified Core Equity Index (“NFI-ODCE”). The Program return is expected to meet or exceed this benchmark, on a rolling three year basis, after deducting all costs and expenses (“net returns”).
2. Investments shall be in limited liability investment vehicles such as limited partnerships, limited liability corporations, private REITs, and other commingled investment Funds. Direct investments through discretionary Separate Accounts may be made through title holding corporations.

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3. Investments shall be primarily equity-oriented, but may also include debt instruments secured by real estate.
4. Specific property types in the Program shall be within the following ranges:

Property Diversification Guidelines	
Property Type	Range
Office	20%-50%
Apartments	15%-35%
Industrial	15%-35%
Retail	15%-35%
Hospitality	Up to 20%
Other (incl. student housing)	Up to 20%

5. Investments in the U.S. shall be diversified by geographic location as follows:
 - a. Exposure (current NAV) in any one NFI-ODCE region within the total Private program (commingled funds and separate accounts) not to exceed the weight of that region in the NFI-ODCE index by more than 5%.
 - b. Exposure (current NAV) in any one Metropolitan Statistical Area (or Metropolitan Statistical Division, if applicable) within the Separate Account portfolio not to exceed 20% of the Separate Account program allocation (“allocation” meaning: NAV + Unfunded Commitments).
6. Investments outside the U.S. may not represent more than 25% of the private real estate portfolio and at the portfolio level must be diversified by type and geographic location.
7. The Program’s investment in any one closed end fund shall not exceed 25% of the total capital being raised for that fund, up to a maximum of \$75 million.
8. No more than 15% of the Program’s commingled Fund Net Asset Value + Unfunded Commitments shall be invested with a single manager. No more than 25% of the Separate Account program allocation shall be invested with a single manager (“allocation” meaning: NAV + Unfunded Commitments).
9. The Program’s outstanding investment(s) with any given firm, including its affiliates and subsidiaries, may not exceed 20% of that firm’s total real estate equity under management.
10. In order to enhance the alignment of interests of the investor and the sponsor, the sponsor of a closed-end fund investment will be required to make a co-investment of at least 1%. This also applies prospectively to Separate Account managers, except where prohibited by law or regulation. Any exceptions must be approved by the Chief Investment Officer.
11. Leverage at the Program level shall not exceed 90% of the (gross) market value of the total assets of the Program. ~~All leverage shall be non-recourse to the Regents, as trustee of UCRP, with respect to UCRP investments in the Program.~~ All leverage shall be non-

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recourse to the Regents, a public corporation, with respect to GEP investments in the Program.

12. Letters of credit may be obtained or funding guarantees provided in favor of a lender in connection with the development and operation of a property managed by a Separate Account manager through a property title holding corporation owned by ~~the Regents as trustee of UCRP, or~~ the Regents, a public corporation, with respect to GEP investments in the Program, provided that such letter or guarantee does not encumber any assets other than those previously committed to such separate account to fund such investment.
13. The acquisition price of any single property or collective investment vehicle (portfolio of properties) shall not exceed 5% of the total Separate Account program long-term allocation (that is, Net Asset Value + Unfunded Commitments + unused capacity consistent with the long-term policy targets of Real Estate). The Chief Investment Officer may approve the acquisition of properties greater than 5% but less than 10% of the total Program allocation.
14. Fund of Fund investments are permitted
15. Club deals and co-investments, in aggregate, shall not exceed 15% of total Program market value, up to a limit of \$300 million for any single deal.

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APPENDIX 7N

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~April 1, 2014~~ November 15, 2012

**PUBLIC REAL ESTATE SECURITIES
INVESTMENT GUIDELINES**

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Public Real Estate Securities allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. Investment Policy

a. Investment Objective

The primary investment objective of the Program is to generate a rate of return from investments in public real estate securities which exceeds the return on the global real estate securities market, measured by the FTSE EPRA NAREIT Global Index return (“Benchmark”), while maintaining risk similar to that of the Benchmark.

b. Investment Strategy

The Program shall be implemented by hiring multiple external investment managers (“Managers”). Each Manager’s strategy will focus on a subset of the global real estate securities market in which the Manager is believed to have a competitive advantage in providing returns in excess of its respective benchmark on a risk adjusted basis. The Chief Investment Officer will monitor whether the aggregate of all externally managed portfolios adheres to these Guidelines, and in particular achieves the overall performance and risk objectives stated below. In addition, each Manager shall have written guidelines, which will detail its strategy, performance objectives, permitted investments, and restrictions. The Chief Investment Officer will monitor each Manager’s adherence to its respective guidelines. In no case may a Manager’s guidelines create potential conflict with the Guidelines for the Program.

c. Performance Objective

Each Manager will have a unique objective, or style benchmark, which is appropriate to its individual strategy, and specified in its guidelines. The Program return is expected to meet or exceed a weighted aggregate of these benchmarks, on a consistent basis over time, after deducting all costs and expenses.

d. Risk Objective

The Program shall be managed so that its annualized tracking error budget shall be 450 basis points. Each Manager will have a unique active risk budget, relative to its style benchmark, which is appropriate to its individual strategy, and specified in its guidelines, and which will reflect the risk-return profile of its specific investment objectives.

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e. ~~Other Constraints and Considerations~~

- ~~• Managers shall comply with applicable State and Federal laws and regulations and the prudence requirement described in section 3(a) of the Policy.~~
- ~~• Managers shall act solely in the interest of the Fund's constituents.~~
- ~~• Implementation of this Program shall comply with the Fund's Policy.~~

2. Investment Guidelines

a. Asset Allocation

It is expected that the Program will be fully invested in equity and equity-related securities at all times. Any cash held by Managers of separate accounts for the purpose of facilitating cash flows or portfolio transactions will be swept daily by the custodian. The Chief Investment Officer or designated overlay manager may equitize this cash using appropriate derivatives contracts.

b. Types of Securities

The Program will be invested in diversified portfolios of real estate securities that are listed on national securities exchanges. Managers may also invest in stocks that are traded over-the-counter and in other real estate-related securities and private placements as limited in their guidelines. A real estate-related company is one in which the predominant share of EBITDA is derived from rental income and/or the equity ownership of real estate.

e. ~~Restrictions~~

~~The Managers may not~~

- ~~• Purchase securities of tobacco related companies, as per the Policy, section 5b.~~
- ~~• Lend securities~~
- ~~• Purchase commodities or commodity derivatives~~
- ~~• Purchase fixed income securities except for cash equivalents used for facilitating transactions~~
- ~~• Buy party in interest securities~~
- ~~• Buy securities restricted as to sale or transfer, except for 144A securities, which are permitted~~
- ~~• Employ economic leverage in the portfolio through borrowing or derivatives~~

cd. Diversification and Concentration

The Program's investments will be appropriately diversified to control overall risk and will exhibit portfolio risk characteristics similar to those of the Benchmark. The Chief Investment Officer is responsible for managing aggregate risk exposures.

The following limitations apply:

- The Program's beta with respect to the Benchmark will not be significantly different from 1.0, as measured over the most recent 12 month period.
- Notwithstanding the overall diversification of the Program, the Chief Investment Officer may set limits on any individual Manager's tracking error and/or contribution to active risk of the Program.
- The aggregate holdings within separate accounts of any security may not exceed 4.9% of that security's outstanding shares.

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It is expected that each Manager's portfolio will be appropriately diversified, within limits established in its guidelines and relative to its performance objectives, to control risk, but without unduly restricting a Manager's ability to out-perform its benchmark. That is, an individual Manager's portfolio may be more concentrated than is appropriate for the Program's aggregate investments.

~~e. — Managers shall employ best execution. Transactions may be directed to brokers/dealers designated by the Chief Investment Officer at the Manager's discretion when best execution is available.~~

~~f. — Managing Cash Flows~~

~~The Chief Investment Officer may use derivative contracts (including but not limited to index futures and ETF's) for facilitating investment of cash flows related to contributions, withdrawals, or other asset allocation rebalancing.~~

~~3. — Evaluation and Review~~

~~a. — Policy and Guideline Review~~

~~The Chief Investment Officer shall review the Objectives and Guidelines at least annually, and report to the Committee on the impact of the Guidelines on the Program's performance.~~

~~b. — Program performance and risk exposures shall be evaluated at multiple levels in accordance with the performance objectives of the Program and individual Managers.~~

~~4. — Reporting~~

~~On a quarterly basis, the Chief Investment Officer shall provide the following reports to the Committee:~~

- ~~a. — A performance attribution explaining differences in sector weights and returns (property type and/or geographical sectors, as appropriate), between the aggregate Program investments and the Benchmark, and an explanation of any material differences.~~
- ~~b. — A forecast risk report, using the Chief Investment Officer's risk system, showing the total, systematic ("common factor"), and non-systematic ("residual") risk of the aggregate portfolio, the Benchmark, and the active Program relative to the Benchmark, and an explanation of any material differences.~~
- ~~c. — A summary of individual manager performance, on an absolute and benchmark relative basis.~~

~~Managers will be required to provide the Chief Investment Officer monthly and quarterly reports, including but not limited to:~~

- ~~a. — A monthly performance statement for the portfolio (gross and net) and the benchmark, and provide the gross performance for the product Composite at least quarterly.~~

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- b. ~~—— If available, a monthly or quarterly forecast risk report, using the Manager’s risk system, showing the total, systematic (“common factor”), and non-systematic (“residual”) risk of the portfolio relative to the benchmark.~~
- c. ~~—— A monthly or quarterly variance analysis, indicating sources of performance variances (difference between portfolio and benchmark return), and an explanation of any material differences.~~
- d. ~~—— A quarterly review of portfolio and strategy performance including a market outlook.~~
- e. ~~—— An annual statement of compliance with investment guidelines.~~

5. ~~—— Definitions: See Appendix 8~~

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APPENDIX 7O

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~July 19, 2012~~ November 15, 2012

**ABSOLUTE RETURN-~~(AR)~~ STRATEGIES
INVESTMENT GUIDELINES**

The purpose of portfolio guidelines is to clearly define performance objectives, state the investment approach, and to control risk. Portfolio guidelines should be subject to ongoing review. A change in the allocation to the strategy or the Investment Committee's risk tolerance can be among the reasons for a guideline review.

Performance Objective:

The objective of the absolute return strategy (AR) portfolio is to earn an annualized return that exceeds the Performance Benchmark (below). The AR portfolio should also provide diversification benefits to the overall portfolio by offering returns that exhibit moderate correlation to the performance of other asset classes. The portfolio shall be composed of absolute return and market directional type strategies.

Portfolio Performance Benchmark

The performance benchmark is a weighted combination of ~~50% times the return of the HFRX-Absolute Return Strategies Index plus 50% times the return of the HFRX Market Directional Index.~~

Portfolio Guidelines

1. Permissible investments include vehicles that invest primarily in Long/Short strategies (including U.S., dedicated Non-U.S., short bias, and global equities), Relative Value strategies (including equity market neutral, convertible bond arbitrage, relative value credit, and fixed income), Event Driven strategies (including distressed securities, special situations, and risk arbitrage strategies), and Opportunistic strategies (including macro, CTA and portfolio hedge).
2. Investments may be made in vehicles that invest in single or multiple strategies.
3. Investments may be made in a variety of vehicle structures, which may include: separate accounts, funds-of-one, comingled hedge funds, funds of hedge funds, and drawdown structures.
4. Policy ranges for the strategies are:

	<u>-Range</u>
Long/Short Equity	100 -50%
Event Driven	10-50%
Relative Value	10-50%
Opportunistic	10-50%

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5. No investment with any single manager can represent more than ~~40~~20% of the AR portfolio.
6. Gross accounting leverage at the aggregate portfolio level shall not exceed 4.5 times the market value of the total AR assets. No more than ~~25~~30% of the portfolio may be invested in managers who use on average more than 64.5 times gross accounting leverage. Recognizing the illiquidity of these investments, these constraints should guide the execution of the AR program, but may be exceeded temporarily between rebalancing. ~~All leverage shall be non-recourse to the Regents, as trustee of UCRP, with respect to UCRP investments in the Program.~~ All leverage shall be non-recourse to the Regents, a public corporation, with respect to GEP investments in the Program.
7. The Chief Investment Officer may not incur debt to leverage the AR portfolio; however, portable alpha strategies are permitted.
8. No more than 15% of the total AR portfolio forecast risk may be derived from any single manager.
9. Total AR portfolio forecast risk shall be maintained at a level of no more than 8.0% of total invested capital.

[Definition] Gross Accounting Leverage: the ratio of the sum of the absolute values of the long and short exposures of a portfolio divided by the net market value of the total portfolio. Gross accounting leverage of the AR portfolio is the sum of the individual manager leverage ratios, weighted by their market values.

[Definition] Forecast Risk: the volatility of forecast returns, as measured by annualized standard deviation. Forecast risk is calculated using a factor based risk model, which decomposes each AR portfolio investment's forecast risk into forecast systemic factor exposures and forecast residual risks, making adjustments for strategy evolution and various liquidity and valuation related considerations.

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APPENDIX 7P

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Last approved: April 1, 2010

**REAL ASSETS
INVESTMENT GUIDELINES**

The purpose of these investment management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives, and to control risk within the Real Assets portfolio (“Portfolio”). These guidelines shall be subject to ongoing review.

These Guidelines are applicable to the entire Portfolio consisting of investments made on behalf of the UCRP and GEP (“the Funds”). The allocation of investments between the Funds will be managed by the Chief Investment Officer in accordance with the respective performance and risk objectives of the Funds.

Strategic Objective

The Portfolio shall be managed with the objective of preserving capital while maximizing the risk-adjusted returns of the Funds through income generation and long-term capital appreciation, enhancing diversification, and hedging against inflationary risks.

Performance Objective

The primary performance objective of the Portfolio is to generate annualized net-of-fee returns, after adjusting for risk, which exceeds the return of the Performance Benchmark on a consistent basis over time.

Performance Benchmark

The Committee has adopted the following performance benchmarks for each of the underlying strategies within the Portfolio:

<u>Strategy</u>	<u>Benchmark</u>
Timberland	IRR-Based Benchmark
Energy	IRR-Based Benchmark
Infrastructure	IRR-Based Benchmark
Commodities	S&P GSCI Reduced Energy Index
Opportunistic	IRR-Based Benchmark

Investment Guidelines

1. Investments shall be made through limited liability structures such as limited partnerships, limited liability corporations, and other vehicles. Permissible investments shall include but are not limited to funds, funds-of-funds, secondaries, co-investments and direct investments, and may include both publicly traded and private market assets.

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2. The Portfolio shall adhere to the following ranges:

<u>Strategy</u>	<u>Allowable Ranges</u>	
	<u>Min</u>	<u>Max</u>
Timberland	0%	50%
Energy	0%	50%
Infrastructure	0%	50%
Commodities	0%	50%
Opportunistic	0%	50%
Total	-	-

3. No single partnership commitment (including co-investments / direct equity investments) can represent, at the time of commitment, more than 15% of the overall real assets allocation, defined as the most recent quarter book value plus unfunded commitments plus target commitment for the current (one) year.
4. No investment with any single investment manager or general partner can represent more than 20% of the overall Portfolio.
5. No investment with any single investment manager or general partner can exceed 30% of that manager's total assets under management, up to \$100 million. Exceptions to this limitation may be made by the Chief Investment Officer.
6. Investments in multiple vehicles managed by the same manager are permitted. However, the total commitment to these investments (including co-investments and direct equity investments), at the time of commitment, may not exceed 30% of the budgeted three-year allocation defined as current book value plus unfunded commitments plus approved commitment level for the current year and two subsequent years.
7. The Portfolio shall be diversified across time.
8. Use of derivative securities by individual investment managers must be specified in writing in the manager's guidelines and must be consistent with the Derivatives Policy, Appendix 4.

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APPENDIX 7Q

This version: ~~November 15, 2012~~ May 12, 2016

Last approved: ~~April 1, 2010~~ November 15, 2012

**LIMITS ON THE SIZE OF INVESTMENTS WITH PUBLIC EQUITY AND FIXED
INCOME MANAGERS**

There are three broad reasons to limit the size of a management firm (“manager” or “product”) within an asset class: first, to reduce headline risk, second, to reduce business risk, and third, to reduce the potential for loss caused by the action of other investors in the product. Unlike investments in non-traditional asset classes, public equity and fixed income portfolios have greater transparency and liquidity, and assets are normally held by a trustee. Nevertheless, it is prudent to be mindful of the Fund’s exposure with individual investment management firms. To best accomplish these goals, this Policy will primarily be stated in terms of principles and objectives and secondarily in explicit rules.

Principles

1. The University of California Pension and Endowment funds (“UC”) desires to retain the freedom of action to make investment decisions without being unduly influenced by the actions of other investors.
2. UC desires to minimize circumstances where the size of its investments results in value impairment.

Objectives

1. Each asset class should be diversified across a group of products with sufficiently dissimilar processes to minimize the possibility of significant concentration in individual assets. This diversification should consider investment style, strategy, statistical characteristics, and cross-holding of actual holdings.
2. UC’s exposure to any single management firm /product should be limited such that an event which has a negative impact on all investors within the firm/product does not cause a *disproportional* negative impact on the value of UC’s investment. Thus the size of a prudent investment must also consider ownership concentration of the *remainder* of the firm /product’s assets.

Rules

1. Notwithstanding the above, no investment in a *single product* of a firm shall be more than 25% of the assets of that product, unless mitigating circumstances exist. Such an exception must be approved in advance by the Chief Investment Officer.
2. Portfolios managed by staff within the Office of the Chief Investment Officer are exempt from this Policy.

Definition: a *single product* is defined as (a) the strategy UC invests in plus (b) any other strategy managed by the same team in the same manner using similar benchmarks.

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APPENDIX 7R

This version: Approved March 14, 2013; effective April 1, 2013

OPPORTUNISTIC EQUITY INVESTMENT GUIDELINES

The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Opportunistic Equity allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.

1. — Investment Policy

Investment Objective

The investment objective of the Opportunistic Equity Strategy is to achieve net excess returns above the MSCI All Country World Index (MSCI ACWI) Net Dividends Index, herein referred to as the Benchmark. The Benchmark is unhedged.

Investment Strategy

The investment strategy is to outperform the benchmark emphasizing investing in public equities in a differentiated way. The strategy will have fewer constraints on the portfolio as a whole, and therefore will place fewer constraints on underlying managers. It will make greater use of nontraditional approaches toward investing in equities. Portfolio construction will be a core-satellite strategy as outlined below:

Core Strategies

The core portion of the investment strategy will consist of equity managers whose aggregate net long exposure will range between 75% and 125%. The core component will range from 50% to 100% of the market value of the Opportunistic Equity portfolio.

The Program may utilize strategies such as: 130/30 strategies, long biased strategies, and global (rather than U.S., Non-U.S. Developed, or Emerging Market regional) equity strategies. These core strategies will have fewer constraints and be more benchmark, style, and sector agnostic than traditional equity strategies. These strategies may have a greater tendency to be more concentrated than the typical public equity manager.

Satellite Strategies

The satellite component of the investment strategy will consist of niche or unique investments. The aggregate net long exposure of the satellite component will range between 50% and 150%, so long as the net long exposure of the Opportunistic portfolio as a whole is 75% to 125%. The satellite component will range between 0% and 50% of the market value of the Opportunistic Equity portfolio.

The satellite component could include the following: activist strategies, tactical or directional strategies, long/short strategies, specialty strategies (such as global small cap, emerging market

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~~small cap, country or sector specialists, frontier markets, and thematic investing), “best ideas” strategies, and overlay strategies.~~

2. ~~Portfolio Construction~~

~~The construction of the Opportunistic Equity portfolio will consider the following attributes:~~

~~Diversification. The portfolio will be diversified in the number of stocks held, sector, country, and regional weights.~~

~~Differentiation. The portfolio will be constructed to ensure that there is significant differentiation relative to the benchmark and to traditional approaches toward investing in public equities. Differentiation will be achieved relative to traditional approaches to investing in public equity by using several (but not necessarily all) of the strategies listed in the section titled “Investment Strategy.” Differentiation relative to the benchmark will be achieved by maintaining a forecast active risk higher than what is typical for a long-only public equity portfolio.~~

3. ~~Investment Guidelines~~

~~The Opportunistic Equity portfolio is subject to the constraints noted below. During the implementation of the Opportunistic Equity strategy, compliance with some of these guidelines may not be required.~~

~~Active Risk Budget: The forecast active risk will be a range of 3-6% annualized standard deviation relative to the Benchmark.~~

~~Beta: The Program’s beta with respect to the Benchmark will typically range between 0.75 and 1.25 over a full market cycle.~~

~~Market Exposure: The portfolio’s net long equity exposure will range between 75% and 125%.~~

~~The Opportunistic Equity portfolio will be invested in publicly traded stocks, including ETFs, ADRs, and other derivatives whose returns are derived from publicly traded stocks.~~

~~Managers may invest in private companies subject to limitations stated in their guidelines.~~

~~Non-equity securities are permitted subject to the above constraints on beta and equity exposure.~~

~~Managers may obtain equity exposure through specialty funds, such as ETFs or commingled funds, subject to limitations in their guidelines.~~

~~Limits on the use of derivative instruments will be consistent with the Regents’ Derivatives Policy and will be specified in writing for each manager.~~

~~Fund-of-funds are permitted.~~

~~Investment in a single manager can represent no more than 15% of the market value of the Opportunistic Equity portfolio.~~

~~Investment in a single manager can represent no more than 25% of the forecast active risk of the Opportunistic Equity portfolio.~~

~~Country and Sector Weights: The portfolio will maintain allocations within plus or minus 15% to the U.S., Non-U.S. Developed Markets, and Emerging Markets, relative to the weights of those regions in the MSCI ACWI benchmark. The portfolio will also maintain sector weights within plus or minus 15% of the MSCI ACWI benchmark sector weights.~~

~~Policy ranges for the Opportunistic Equity portfolio are as follows:~~

~~Core component ————— 50-100%~~

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~~Satellite component—0-50%~~

~~Gross Exposures: The portfolio is prohibited from employing gross leverage in the aggregate portfolio in excess of 150% of the market value of the portfolio.~~

~~Portable alpha strategies are permitted; however, the Office of the Chief Investment Officer may not incur debt to leverage the portfolio.~~

~~Lock-Ups: The average lock-up period for the portfolio as a whole will not exceed one year.~~

~~Liquidity: A minimum of 65% of the Opportunistic Equity portfolio will offer redemptions in 90 days or less upon notification from U.C., subject to lock-up requirements.~~

~~Preliminary gross and net returns will be required within six days of month end. Final gross and net returns will typically be required within twenty days of month end.~~

4. ~~Definitions~~

~~Active Risk: a measure of the difference between a portfolio or strategy and a benchmark. It takes into account the size, volatility of, and correlations between the various exposures and risk factors which differ between portfolio and benchmark.~~

~~Activist strategy: Activist managers acquire larger ownership stakes in companies in an effort to improve the business performance of the companies they are invested in or managed. Activism in this sense is not engaged in environmental or social investing; the emphasis here is to improve the business performance of specific companies.~~

~~Beta: the sensitivity of a portfolio to a benchmark, computed by regressing portfolio excess returns on benchmark excess returns from the same period. A beta of 1.0 indicates similar return variability as the benchmark. A beta of 1.2 (alternately, 0.80) indicates that for every 1% increase or decrease in the benchmark excess return, the portfolio's excess return increases or decreases by 1.2% (alternately, 0.8%).~~

~~Equity Exposure: the gross exposure to equity securities or securities underlying equity derivatives~~

~~Forecast active risk: an estimate of the active risk of a portfolio or strategy based on the forecast volatilities and correlations among the securities or risk factors held in the portfolio as of a given date~~

~~Frontier markets: Equity markets not included in MSCI All Country World Index; they are considered too new or undeveloped to be included in the Emerging Market Index~~

~~Gross dollar exposure is defined as the sum of the combined long exposures and the absolute value of the short exposures, including all physical and derivative securities positions.~~

~~Gross leverage: a term used to indicate that the gross dollar exposure of a portfolio exceeds the net market value of the total portfolio~~

~~Lock-up: the period of time after making an investment with a manager during which the investor may not withdraw or redeem any of the investment~~

~~Net dollar exposure (of a portfolio): the arithmetic sum of the dollar market values of all long (positive) and short (negative) positions in securities, plus the notional value of futures contracts, plus the dollar delta of options contracts.~~

~~Overlay strategy: a strategy intended to manage a specific risk factor, such as currency, of a group of accounts, each managed by a separate manager. The overlay is designed by comparing the aggregate (net) exposures of underlying managers and adjusting those exposures to a pre-determined risk profile, e.g., the currency profile of the Benchmark~~

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~~Portable alpha strategy: an investment strategy constructed to have zero market risk (beta). Being independent of both the direction and the magnitude of the market's movements, it represents the manager's skill in selecting investments. Elimination of the market risk can be accomplished by means of short selling and derivatives such as futures, swaps, and options.~~

~~Realized annualized active risk: the standard deviation of the monthly differences between the portfolio return and the benchmark return, using monthly returns over a given historical period, multiplied by the square root of 12.~~

~~Unhedged benchmark: a benchmark in which the underlying securities' returns are translated from their local currency back to US dollars at each measurement date.~~

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~~APPENDIX 7S~~

~~This version: Approved March 14, 2013; effective April 1, 2013~~

~~CROSS ASSET CLASS STRATEGIES INVESTMENT GUIDELINES~~

~~The purpose for these performance objectives (“Objectives”) and management guidelines (“Guidelines”) is to clearly state the investment approach, define performance objectives and to control risk in the management of the Cross Asset Class allocation of the Fund (“the Program”). These Objectives and Guidelines shall be subject to ongoing review by the Committee. Capital market conditions, changes in the investment industry, new financial instruments, or a change in the Committee’s risk tolerance, are among factors to be considered in determining whether the Guidelines shall be revised.~~

~~1. ——— Investment Policy~~

~~Investment Objective~~

~~The objective of the Cross Asset Class Strategies (CAC) portfolio is to earn an annualized return, net of all fees and expenses, that exceeds the Performance Benchmark. The performance benchmark will be a weighted average of the UCRP and GEP policy benchmarks, weighted by the asset values of the UCRP and GEP, rebalanced monthly. (See below for explanation.)~~

~~Investment Strategy~~

~~The Program will have the scope to integrate and leverage best ideas across all asset classes through the following key objectives:~~

~~Utilize Strategic Partners in channeling best alpha and tactical beta signals to inform the Chief Investment Officer’s asset allocation process~~

~~Create an innovation engine for new investment ideas~~

~~Enhance the potential for higher returns and diversification across the overall plan by successful integration of CAC ideas in the total plan.~~

~~Portfolio Guidelines~~

~~Permissible investments include funds that invest in all strategies within all geographies.~~

~~Examples include: global macro, CTA, selected portfolio hedges, Relative Value strategies, Event Driven strategies, currency strategies, volatility strategies, risk parity strategies, long only strategies, specialty strategies, and managed futures.~~

~~In the event of market dislocations and mispricing, CAC managers are also expected to develop timely investment innovations and products to allow the Chief Investment Officer to invest in niche or specialized strategies not specifically cited in the guidelines.~~

~~Investments may be made in funds that manage single or multiple strategies; however the mandate will generally seek to invest with core management entities which have capabilities across multiple strategies and geographies. This will provide the Chief Investment Officer with the ability to make timely investments in specific asset class strategies.~~

~~No investment (the net asset value of UC’s equity stake in a strategy) with any single manager can represent more than 33% of the CAC portfolio at time of investment, until such time that the CAC allocation (to UCRP or GEP) is greater than 6% of the total market value of UCRP or GEP, respectively. After that time, no investment with any single manager can represent more than 20% of the CAC portfolio at time of investment. Exceptions to this limit may be approved by the Chair of the Committee on Investments.~~

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~~No investment with an asset management firm may exceed 15% of that firm's total assets under management.~~

~~The Chief Investment Officer may not incur debt to leverage the CAC portfolio; however, portable alpha strategies are permitted.~~

~~No more than 50% of the total CAC portfolio risk budget may be derived from any single manager.~~

~~Gross accounting leverage at the aggregate portfolio level shall not exceed 2.0 times the market value of the total CAC assets. All leverage shall be non-recourse to the Regents, as trustee of UCRP, with respect to UCRP investments in the Program. All leverage shall be non-recourse to the Regents, a public corporation, with respect to GEP investments in the Program.~~

~~Note: During the initial implementation of an allocation within the plans, compliance with some of these guidelines may not be required. The Chief Investment Officer and Regent's investment consultants will monitor and inform the Committee as to the status of its compliance with these guidelines.~~

Definitions

~~Gross Accounting Leverage: the ratio of the gross dollar exposures of a portfolio divided by the net market value of the total portfolio.~~

~~Gross dollar exposure is defined as the sum of the combined long exposures and the absolute value of the short exposures, including all physical and derivative securities positions.~~

~~Gross accounting leverage of the Program is the sum of the individual manager leverage ratios, weighted by their market values.~~

~~Note on Benchmark Calculation: the performance benchmark for the CAC program is calculated as follows: (a) first compute the weighted average of all the asset class benchmarks within UCRP (and GEP), where the weights are the current policy allocations to each asset class, *excluding* CAC. (b) divide that weighted average by [100% – Percent allocation to CAC]. Then the total fund policy benchmark return (*including* CAC) is identical to the CAC benchmark return.~~

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APPENDIX 8

This Version: ~~November 15, 2012~~ May 12, 2016

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DEFINITIONS

1. Actively managed: that part of the assets of the Program in which securities are purchased in different proportions than in the Benchmark in the expectation of earning a greater return than would be earned by replicating the Benchmark portfolio (“passive” investing).
2. Annualized tracking error budget: the amount of active risk which represents a typical amount of benchmark deviation for a Manager or the Program. The budget is not an absolute limit, and market conditions may dictate whether a greater or lesser amount of benchmark deviation is appropriate. The risk budget is normally expressed in forecast terms, and is compared to realized risk as a principal metric of the stability of a strategy.
3. Beta: the sensitivity of a portfolio to a benchmark, computed by regressing portfolio excess returns on benchmark excess returns from the same period. A beta of 1.0 indicates similar return variability as the benchmark. A beta of 1.2 (alternately, 0.80) indicates that for every 1% increase or decrease in the benchmark excess return, the portfolio’s excess return increases or decreases by 1.2% (alternately, 0.8%).
4. Cash equivalents: cash or short-term fixed income securities and an average quality rating of at least A or equivalent.
5. CDO, CLO, CBO: Collateralized Debt, Loan, and Bond obligations, respectively.
6. CMBS: Commercial mortgage backed securities.
7. CMO: Collateralized mortgage obligation (MBS derivative with unique structured risk and return characteristics).
8. Counterparty: One party to a trade legally bound to make a good delivery or a good payment.
9. Credit default swap (CDS): a financial contract used to transfer the credit risk of a reference entity from one party (protection buyer) to another (seller). The protection buyer pays a premium to the protection seller, in exchange for a contingent payment following a credit event, such as defaults or bankruptcy.
10. Derivatives: financial contracts whose value is completely determined by the value of an underlying security.
11. Developed Markets: Countries which have achieved an advanced stage of economic development, whose securities markets have met certain standards for stability, and are included in one or more index provider’s Developed Markets indexes; to be distinguished from “Emerging Markets.”
12. Dollar delta (of an option): a measure of net dollar exposure of an option; defined to be the option’s notional value times the option’s delta.
13. Economic Leverage: in the context of portfolio management, is defined as a net dollar exposure to assets in excess of the dollar amount of invested capital as measured by current market value
14. Effective duration: a quantitative measure of the interest sensitivity of a fixed income instrument. It measures the approximate change in price of a security given a 100 basis point (one percentage point) change in the yield to maturity of the security.

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15. Emerging Markets: Countries at varying stages of economic development, whose securities markets have only recently met certain standards for stability, and are included in one or more index provider's Emerging Markets indexes; to be distinguished from "Developed Markets."
16. Equitizing cash: the process of purchasing equity derivatives for the purpose of maintaining equity exposure.
17. Equity related securities: includes, but is not limited to convertible securities, preferred securities, and equity warrants.
18. Eurodollar deposits: deposits issued in US dollars of foreign banks and foreign branches of US banks.
19. Forecast annualized tracking error: the forecast standard deviation of annual differences between the portfolio return and the benchmark return, based on the current holdings in a portfolio, and using a particular risk estimation methodology and system.
20. Global Equity Strategy: an investment mandate based on a global equity benchmark which includes equity securities of both U.S. and Non-US companies
21. Gross dollar exposure is defined as the sum of the combined long exposures and the absolute value of the short exposures, including all physical and derivative securities positions.
22. Gross leverage: a term used to indicate that the gross dollar exposure of a portfolio exceeds the net market value of the total portfolio
23. Hedging: the process of reducing the possibility for gain or loss over a specific future period by taking an opposite position, yet not altering the underlying portfolio structure.
24. IO, PO: Interest only and Principal only strips (CMO variety).
25. Leverage: in the context of asset class guidelines, means "economic leverage," not "gross leverage"
26. Management costs and fees: for the purpose of the Objective in Part 1, costs and fees shall refer only to those costs directly incurred by the Chief Investment Officer, either directly for this asset class or general office expenses allocated to it. It shall not include other University overhead or allocated indirect costs.
27. Net Dividends (with respect to a performance benchmark / market index): a calculation of total return which approximates the minimum dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates. [definition from MSCI]
28. Net dollar exposure (of a portfolio): the arithmetic sum of the dollar market values of all long (positive) and short (negative) positions in securities, plus the notional value of futures contracts, plus the dollar delta of options contracts.
29. NRSRO: Nationally recognized statistical rating organization, such as Moody's or Standard and Poor's.
30. Overlay manager: a manager whose mandate is to manage a specific risk factor, such as currency, of a group of accounts, each managed by a separate manager. The overlay manager usually compares the aggregate (net) exposures of underlying managers and adjusts those exposures to a pre-determined risk profile, e.g., the currency profile of the Benchmark.

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31. Portfolio characteristics: attributes of a portfolio of securities, including but not limited to, weighted average market capitalization, weighted average dividend yield, weighted average price-earnings ratio, beta with respect to a benchmark, allocation among countries or geographical regions, sector weights, effective duration, credit quality.
32. Product Composite: the return on the weighted aggregate of all portfolios managed by an investment firm using a similar process; see the CFA Institute Performance Presentation Standards for further explanation.
33. Prudence Requirement: a requirement of anyone acting in the capacity of a fiduciary, that they act with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.
34. Realized annualized tracking error: the standard deviation of the monthly differences between the portfolio return and the benchmark return, using returns from the most recent 12 month period, multiplied by the square root of 12.
35. REMIC: Real estate mortgage investment conduit (CMO variety)
36. Repurchase agreement: Sale of a security with a commitment from the seller to buy back the security from the purchaser at a specified price at a designated future date. A repurchase agreement is a collateralized loan where the collateral is a security.
37. Separately managed account: an account entirely owned by The Regents of the University of California, as Fund trustee, for which investment policies and guidelines are determined jointly by the Chief Investment Officer and the manager.
38. Spread duration: a quantitative measure of the credit risk sensitivity of a fixed income instrument. It measures the approximate change in price of a security given a 100 basis point (one percentage point) change in the spread (over the Treasury curve) of the security.
39. Structured (levered) notes: securities where coupon or interest payments are leveraged, linked, or indexed to interest rates, index returns, foreign exchange rates, or other similar variables.
40. Unhedged benchmark: a benchmark in which the underlying securities' returns are translated from their local currency back to US dollars at each measurement date.
41. Barclays ~~Capital~~ US Aggregate Index: The U.S. Aggregate covers the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS, and CMBS. Issues are Market capitalization weighted. Securities must have a minimum maturity of one year to remain in the index. Securities must have a minimum quality investment grade by middle rating of Moody's, S&P, and Fitch.
42. Barclays ~~Capital~~ US TIPS Index: The U.S. TIPS Index covers all publicly issued US Treasury issued inflation linked bonds (linked to the US Consumer Price Index). Issues are Market capitalization weighted. Securities must have a minimum maturity of one year to remain in the index.
43. BofA/Merrill Lynch High Yield Cash Pay Index: This Index tracks the performance of US dollar-denominated below investment grade corporate debt, currently in a coupon paying period, which is publicly issued in the US domestic market. The country of risk of qualifying issuers must be an FX-G10 member, a Western European nation, or a territory of the US or a Western European nation. Individual securities of qualifying issuers must have a below investment grade rating (based on an average of Moody's, S&P and Fitch).

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In addition, qualifying securities must have at least one year remaining term to maturity, a fixed coupon schedule and a minimum amount outstanding of \$100 million. 144a securities, both with and without registration rights, qualify for inclusion in the Index. Issues are Market capitalization weighted.

44. J.P. Morgan Emerging Markets Bond Index – Global Diversified: This index includes US dollar-denominated Brady bonds, Eurobonds, and traded loans issued by sovereign and quasi-sovereign entities. The EMBI Global Diversified defines emerging markets countries with a combination of World Bank-defined per capita income brackets and each country's debt restructuring history. Issues are Market capitalization weighted but the index limits the weights of those index countries with larger debt stocks by only including a specified portion of these countries' eligible current face amounts of debt outstanding. The maximum weight to a country is capped. Securities must have a minimum maturity of one year to remain in the index.
45. J.P. Morgan Global Bond Index - Emerging Markets Global Diversified [GBI-EM Global Diversified]: This index is a comprehensive Emerging Markets debt benchmark that track local currency bonds issued by Emerging Market governments (14 countries from Asia, Europe, Latin America, and Middle East/Africa). Countries are eligible for *inclusion* as long as they are classified as having a low or middle per capita income by the World Bank for at least two consecutive years. Markets with capital controls are not eligible. Issues are market capitalization weighted but the index limits the weights of those index countries with larger debt stocks by only including a specified portion of these countries' eligible current face amounts of debt outstanding. The maximum weight to a country is capped at 10%. The excess is redistributed to those countries that have a market capitalization of less than 10%. Securities must have a minimum maturity of one year to remain in the index.
46. Citigroup Large Pension Fund Index: This index provides an appropriate benchmark for pension funds seeking to establish long-term core portfolios that more closely match the longer duration of their nominal dollar liabilities. Issues are Market capitalization weighted; sectors have fixed weights. Securities must have a minimum maturity of 7 years (non mortgage); one year (mortgage) to remain in the index. Securities must have a minimum quality BBB-/Baa3.
47. Citigroup World Government Bond Index ex-US: This index contains Sovereign debt denominated in the domestic currency (23 government bond markets: of Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Malaysia, Mexico, the Netherlands, Norway, Poland, Singapore, Spain, Sweden, Switzerland, U.K., and U.S.). Issues are Market capitalization weighted. Securities must have a minimum maturity of one year to remain in the index. Securities must have a minimum quality A-/A3.