The Regents of the University of California

INVESTMENTS SUBCOMMITTEE
May 16, 2017

The Investments Subcommittee met on the above date at UCSF–Mission Bay Conference Center, San Francisco.

Members present: Regents Elliott, Kieffer, Sherman, and Zettel; Ex officio member Makarechian; Advisory members Lemus and White; Chancellor Block

In attendance: Faculty Representative Chalfant, Secretary and Chief of Staff Shaw, Chief Investment Officer Bachher, Deputy General Counsel Shanle, and Recording Secretary McCarthy

The meeting convened at 2:00 p.m. with Subcommittee Chair Sherman presiding.

1. **PUBLIC COMMENT**

Subcommittee Chair Sherman explained that the public comment period permitted members of the public an opportunity to address University-related matters. The following persons addressed the Subcommittee concerning the items noted.

A. Ms. Lexi Daoussis, UC Santa Cruz student, expressed her view that the fossil fuel industry was immoral and unethical as it spews carbon emissions responsible for worsening the climate crisis. The investments of the UC General Endowment Pool (GEP) in the fossil fuel industry harm UC students and their futures. She urged the Regents to divest from holdings in the fossil fuel industry.

B. Ms. Laretta Johnson, UC Santa Cruz student, stated that UC students, faculty, and chancellors have made their stance clear on climate change and the fossil fuel industry. This progressive University should be at the forefront of this movement to find solutions and combat climate injustice. UC faculty and students research and work toward solutions of environmental problems, but UC continues to profit from climate change. She urged divestment from the fossil fuel industry.

C. Mr. Martin Genova, UC Santa Cruz student, cited student, faculty, and chancellor support for divestment from the fossil fuel industry. He urged divestment from fossil fuels and reinvestment in sustainable energy solutions.

D. Mr. Sam Weinstein, UC Santa Cruz student, noted that UC had divested in the past from certain investments. He urged the Regents to divest from the fossil fuel industry.

E. Mr. Evan Steel, UC Davis student, commented on the worldwide political consequences of supporting the fossil fuel industry.

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F. Mr. Kevin Horng, UC Davis student, stated that, as a student of sustainable environmental design, he studies the holistic facets of a sustainable future. Fossil fuels would not be part of a sustainable future. He urged the Regents to divest from the fossil fuel industry.

G. Ms. Mary Higgins, member of Teamsters Local 2010, expressed opposition to the proposed management fee on 401(k) accounts, a flat tax that would be regressive because it would be particularly difficult for UC's low-paid employees. This higher management fee would have a big effect on workers who are already not able to save much.

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

Upon motion duly made and seconded, the minutes of the meeting of March 14, 2017 were approved.

3. **UPDATE ON INVESTMENT PRODUCTS**

[Background material was provided to the Subcommittee 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 commented on the importance of the voices of students in Fossil Free UC to the Office of the CIO. Mr. Bachher and his team have adopted a sustainable investment framework and believe that thinking about fossil fuels and the risks they pose to UC's long-term investments should be incorporated into the decisions made by the Office of the CIO. The Office of the CIO must first consider its financial obligations to the University and its retirees, and must balance those obligations with the risks of its long-term investments. His office continues to examine fossil fuel investments through the lens of its sustainable investing framework.

Mr. Bachher reviewed the principles guiding the investment philosophy of the Office of the CIO: less is more; risk rules; concentrating the way investments are diversified; being creative where possible and focusing on innovation; partnering with managers to build knowledge; teaming up both internally and with partner investors; leveraging UC's competitive advantage; aligning UC with its external managers to drive investment outcomes; recognizing the effect of technological innovations on current and potential investments; and focusing on long-term performance.

Mr. Bachher commented that, in the current low-growth environment, lower investment returns were anticipated. His office would collaborate with its stakeholders to set realistic expectations, including for payout rates from the Total Return Investment Pool (TRIP) and the General Endowment Pool (GEP). The following day the Finance and Capital Strategies Committee would consider a recommendation to maintain the GEP payout at 4.75 percent. In the past year the UC Retirement Plan's (UCRP's) discount rate had been reduced from 7.5 percent to 7.25 percent, consistent with the trend for large public pension plans. The California Public Employees' Retirement System had decided to

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reduce its discount rate from 7.5 percent to seven percent over the upcoming three years; the California State Teachers' Retirement System would reduce its discount rate from 7.5 percent to seven percent over a shorter time period. These moves were based on a realistic assessment of expected returns. In this environment it would be important to focus on the specific objectives of each of the Office of the CIO's investment products and manage each product differently based on its risk and return objectives. The Office of the CIO would complete reviews of asset and risk allocations for all of its investment products. An updated asset allocation for the GEP had been approved at the last meeting. Even more important than asset allocation was risk management. The Office of the CIO could add value above the benchmarks through both passive and active management, and would aggressively reduce management costs, the only risk-free return in this low-return environment. Mr. Bachher emphasized the significance of investment opportunities that come from within the UC system, its alumni, and its partners; these have been important sources of unique investment opportunities, particularly in private assets.

At the end of the last fiscal year, June 30, 2016, the UC Entity had $97.6 billion in assets. In the first nine months of the current fiscal year, as of March 31, 2017, the UC Entity had earned roughly nine percent and grown to $107.2 billion including $10.4 billion in the GEP; $59.7 billion in the UCRP; $21.7 billion in the UC Retirement Savings Program (UCRSP); and close to $15 billion in working capital. For the first time, the Office of the CIO was managing the assets of UC's captive insurance company Fiat Lux Risk and Insurance Company (Fiat Lux). The returns over the first nine months of this fiscal year were higher than anticipated in this low-growth environment, but these healthy returns also contained risks.

Mr. Bachher reported that 77 percent of the assets of the Office of the CIO were invested in the United States, up from 75 percent at the end of the last fiscal year. His office continued to see investment opportunities in Europe, as well as the potential for good investment opportunities in the developed non-U.S. and emerging markets. Slightly more than 52 percent of the UC Entity was invested in public equities; another 30 percent was invested in the fixed income market. About 14 percent is invested in more private assets, including absolute return, private equity, real estate, and real assets. As public equity markets had risen, the Office of the CIO increased its cash position to 4.4 percent, which functions as a safe hedge in the current highly valued market and includes almost $800 million from Fiat Lux. As the Office of the CIO invests the Fiat Lux assets, it would move out of cash into other areas.

Senior Managing Director Steven Sterman discussed fixed income investments, commenting that interest rates had continued to be very low. The Federal Reserve Board of Governors had intended to move toward normalizing rates for a number of years. At the end of 2015, it began a gradual cycle of increasing rates. There was a rate increase at the end of 2015, one at the end of 2016, and one 25-basis-point increase so far in 2017. Mr. Sterman anticipated that the increase in interest rates would continue to be very gradual. Economic growth in the U.S. and around the world continued to be at a sub-par pace and inflation had remained low. Since the U.S. presidential election in November, there had been excitement about a growth-focused economic agenda, fueled by fiscal

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spending and ten-year yields started to move higher. However, Mr. Sterman and his team felt that the federal administration's ability to push through a growth agenda in 2017 was limited. He anticipated that the Fed's approach would remain gradual and ten-year interest rates would remain in a narrow range around their current rate of 2.3 percent.

Regent Makarechian asked for Mr. Sterman's view about the possibility that the Federal Reserve Board would reduce its bond holdings, that interest rates could rise sharply as a result, and that it was considering issuing 50-year bonds. Mr. Sterman commented that during the past year the Federal Reserve Board had been transparent about its intention to reduce its $4 trillion balance sheet over time. Currently, the Federal Reserve Board reinvests its cash flow from maturities and interest payments into both Treasury bonds and mortgage-backed securities. He anticipated that by late 2017 or early 2018 the Federal Reserve Board would begin to taper this investment slowly and its officials have expressed sensitivity about jarring the market. The Federal Reserve Board currently reinvests about $75 billion per month; it might reduce this monthly amount by $10 billion beginning in December or January. Mr. Sterman did not anticipate market disruptions as a result. He thought the Federal Reserve Board might issue 50-year bonds, but that there would be only limited buyers of such a product and it would not disrupt markets. He did not anticipate a steep hike in interest rates, as he did not envision a large increase in inflation. He anticipated that, as the Federal Reserve Board reduced its reinvestment in mortgage-backed securities, there could be opportunities in that area. His portfolio was currently underweight in agency mortgage-backed securities.

Subcommittee Chair Sherman asked about the duration of the fixed income portfolio. Mr. Sterman responded that overall the duration was about 4.5 years; the core fixed income portfolio's duration was about 5.25 to 5.5 years, in line with the portfolio's benchmark. Subcommittee Chair Sherman asked about the typical duration of endowment funds during periods of normalized interest rates. Mr. Sterman noted that most endowments do not hold traditional fixed income, but hold Treasury bonds mainly for liquidity, using opportunistic investments, which tended to be floating rate. Pension funds held more traditional core fixed income.

Senior Managing Director Scott Chan discussed public equities. In contrast to the two prior years, global public equity markets had risen 14 percent over the past nine months. He attributed this increase to three factors: a robust rebound in earnings around the globe; reflation and the prospect of a procyclical government under President Trump; and stabilization in China. Market sectors that had benefited most were cyclical sectors and interest-rate sensitive sectors, such as information technology and financials. Defensive sectors, such as real estate, utilities, consumer staples, telecommunications, and health care, had lagged. All major geographical areas had been up significantly, particularly Asia and Latin America. The equity rally continued in April and May.

Mr. Chan said the market contained risks of extended valuations, particularly in the U.S. The bifurcation of equity values between the U.S. and other countries was growing. Another risk involved the shift to passive investments. In the current year, more than $500 billion was moved out of active equity investments and roughly $400 billion moved

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into passive equities. This movement had resulted in a concentration in ownership of specific equities. UC's external managers were seeing a worrisome trend of disconnectedness between the intrinsic values of these companies and their prices.

Mr. Bachher commented that the Office of the CIO's fixed income holdings were managed internally; its public equity holdings were managed externally, either through active external managers or through passive index funds. In response to question from Subcommittee Chair Sherman, Mr. Bachher stated that the proportion of active and passive equity holdings was different for each investment product. Three years prior, the Office of the CIO had roughly 80 external equity managers. TRIP had about 30 percent of its assets in equities, all invested passively; that portfolio used to have 30 external managers. Three years prior, UCRP, with half of its assets in public equities, had 80 external managers; it currently had 32 external managers and that number would be further reduced to about 24. UCRP's public equity holdings were 60 percent actively managed, with the balance in passive funds; that balance would gradually be reversed to 30 to 40 percent actively managed and 60 percent passively managed equities. He pointed out that global index funds were invested roughly 54 percent in U.S. equities, 11 percent in emerging market equities, and the balance in non-U.S. developed equities. For the GEP, about 70 percent of the public equity portfolio was invested actively, with 14 active managers reduced from 80 three years prior.

Regent Makarechian asked if asset allocations should be reviewed, given high U.S. equity valuations. Mr. Bachher commented that global equity markets in the MSCI ACWI Index were comprised of three component markets: 54 percent in the U.S. market, 35 percent in the non-U.S. developed market, and the balance in emerging markets. If the Office of the CIO benchmarks itself to that index, its holdings should be roughly in those proportions. He agreed that investment opportunities in emerging and non-U.S. developed markets were growing. Active stock picking in U.S. stocks was currently very challenging.

Regent Kieffer asked why the Office of the CIO was moving to more passively managed equities. Mr. Chan commented that having 80 active public equity managers resembled having a high-cost index fund. His office had focused on finding external managers with holdings differentiated from the benchmark to gain excess returns. He expressed his view that some exchange-traded funds (ETFs) in concentrated areas were currently highly valued. He noted that trends toward active or passive management were cyclical. Mr. Bachher added that outperforming the benchmark consistently was very difficult. There had been a growing awareness of the high cost of active management.

Chief Risk Officer and Senior Managing Director Richard Bookstaber discussed portfolio risks. The Office of the CIO's internal risk management structure uses BlackRock's risk management system and had recently added private equity and real estate to that system. The beta version of an innovative risk management system that considers secondary effects of potential market dislocations was also being used. Mr. Bookstaber commented on issues contributing to current risk. The current linkages between geopolitical and financial risk were much tighter than in the past. Factor exposures were concentrated,

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with a few large investors heavily concentrated; if they had to liquidate, the ripple effects could be powerful. One example of such factor concentration was in the ETF market. Some ETFs were thought to be liquid, but their underlying holdings might not be liquid. Another risk involves the very low volatility of the market, which demonstrates about 30 percent lower volatility than typical volatility over the past four to five years, and can mask underlying risks. If volatility were to increase, market correlations would also increase and diversification would not work as well to moderate risk.

Mr. Bachher asked about the implications of these interconnected risks for the day-to-day positioning and management of the portfolio. Mr. Bookstaber expressed his view that the key tool to address these risks was to maintain a posture of high liquidity either in cash or in highly liquid instruments such as Treasury bonds. The Office of the CIO would then be in a position to take advantage of market dislocations as they occur. Subcommittee Chair Sherman asked if the Office of the CIO should raise more cash. Mr. Bookstaber responded that the portfolio's current cash and core fixed income positions were sufficient.

In response to a question from Regent Makarechian, Mr. Bachher stated that the cash held by his office represented 4.4 percent of all investment products, a higher percentage than it had ever been historically. He did not intend to increase that proportion.

Managing Director Edmond Fong discussed the GEP. As of June 30, 2016, the GEP and the ten campus foundation assets totaled $15.4 billion, including $9.1 billion in the GEP and $6.3 billion aggregate in the campus foundations. Five years prior, these assets totaled $10 billion, with $6 billion in the GEP. The GEP payout for the upcoming year would be more than $320 million, compared with the recent year payouts of $260 million. Inflows to the GEP have increased dramatically. Mr. Bachher pointed out that increase was primarily from UCLA's royalty sales. In the current fiscal year to date, the GEP increased more than $1 billion, including $840 million in market gains, plus $210 million in value added through the management of the Office of the CIO, and $300 million in net inflows. As of March 31, 2017, the GEP held assets of $10.4 billion, an 11.2 percent return for the prior nine months, 240 basis points (bps) above the benchmark.

Mr. Fong discussed the GEP asset allocation as of March 31, 2017: 45 percent in public equity, 11 percent in fixed income, 7.8 percent in cash, and 37 percent in other investments including absolute return, private equity, real estate, and real assets. The portfolio was overweight in public equity and in cash. The portfolio risk was close to its benchmark risk. The GEP risk was not related to systemic risk factors such as global macroeconomic risk, economic growth risk, or credit risk; rather it was idiosyncratic risk such as stock selection. In the nine months ending March 31, 2017, the GEP returned 11.2 percent, 2.4 percent above the benchmark. Gains were driven by public and private equities. Of the 45 percent of the GEP invested in public equities, 66 percent was actively managed by 15 external managers, compared with 60 external managers two years prior. The GEP public equity portfolio was invested 45 percent in U.S. equities, 37 percent in non-U.S. developed equities, and 18 percent in emerging market equities. Compared with

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the benchmark, the GEP public equity portfolio was underweight U.S. equities and slightly overweight non-U.S. developed equities. U.S. equities earned 16 percent compared with the benchmark's 15.1 percent. The non-U.S. developed equities earned 25 percent, 12 percent above the benchmark's 13 percent. Emerging market equities in the GEP underperformed slightly, earning 14.7 percent compared with 16.4 percent for the benchmark. Mr. Fong explained that the GEP emerging market public equity portfolio underperformed because of its concentration in Asia, when Latin America had particularly robust returns. The primary driver of the public equity returns was stock selection.

Subcommittee Chair Sherman asked about compensation of the active managers. Mr. Chan explained their compensation was a combination of management and incentive fees; some are paid a percentage of performance earned relative to a benchmark. The Office of the CIO was in the process of reviewing contracts with its external managers; some would be restructured. Mr. Bachher added that engaging fewer external managers enabled his office to negotiate more favorable management agreements. Subcommittee Chair Sherman asked if the GEP's public equity external managers also handled investments in the other products, such as UCRP. Mr. Fong responded that four of the 15 managed public equity investments for other UC products.

Regent Makarechian asked about hurdle rates for external managers. Mr. Fong explained that the hurdle rate was usually the market benchmarks for the managers' specific areas of concentration. In addition, incentive fees are often crystallized over a three-year period. Regent Makarechian asked how much the Office of the CIO had reduced management fees. Mr. Bachher stated that savings were $70 million to $100 million annually.

Mr. Fong stated that the GEP private equity portfolio gained 14 percent in the nine months ending March 31, 2017. In the GEP, the private equity portfolio contained 40 percent co-investments, 30 percent buyout funds, and 30 percent venture capital. The large allocation to co-investment funds allowed the Office of the CIO to reduce its overall private equity management fees closer to one percent management fee and ten percent performance fee, as co-investment funds charged no management fee or carried interest. Buyout funds had been the key driver of returns, earning 24 percent; co-investments returned 14 percent; venture capital lagged with returns of 3.3 percent. The GEP absolute return gained 4.6 percent for the nine months ending March 31, 2017.

The GEP had eight percent cash and six percent Treasury bond type instruments in its fixed income portfolio, for an aggregate 11 percent, providing ample liquidity. Real estate returned 4.7 percent. The real estate portfolio included 38 percent value-added, which gained 3.6 percent for the nine months ending March 31, 2017; 35 percent opportunistic, which gained 9.4 percent, and 27 percent core holdings, which gained 3.2 percent. Real assets gained 5.5 percent for that period, driven largely by the rebound in energy holdings and stabilization of energy prices. Mr. Fong emphasized the importance of focusing on long-term returns. Mr. Bachher anticipated that GEP investment returns for the fiscal year might be in the middle of UC's comparators,

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because of UC's relatively large cash position. He said he would be pleased if this year's returns exceeded the prior year's by the current margin of 15 percent. Mr. Bachher announced the recent hiring of John Ritter as managing director of real assets.

Regent Zettel asked if the Office of the CIO was continuing to encourage the UC campus foundations to invest their endowment funds in the GEP. Mr. Bachher answered in the affirmative, noting his office's good relationships with the campuses. Many of the smaller campus foundations have asked the Office of the CIO to leverage its size and scale to provide opportunities in private assets. The Office of the CIO would launch a new product on July 1 in private equity, real estate, absolute return, and real assets. This product would be seeded with assets from the Office of the CIO and unitized so any UC campus foundation could buy units at no cost. Mr. Bachher anticipated that some UC campuses would take advantage of this opportunity to benefit from the investment expertise of the Office of the CIO at no cost. UCLA had alerted the Office of the CIO to investment opportunities that it had identified but that required a larger investment than UCLA could make. Mr. Bachher expressed his desire to continue to build trusting relationships with the campuses. In response to a question from Subcommittee Chair Sherman, Mr. Bachher said the Subcommittee would receive a report later in the year on the performance of the campus foundations.

Mr. Sterman reported on UCRP, which currently had 200,000 members, including active employees and beneficiaries. In the upcoming five to ten years, UC would experience a wave of retirements. Currently UCRP paid out slightly more than $3 billion annually; ten years from now that number would be significantly higher.

Investment markets had been positive for all UCRP asset classes in the current year, with total assets increasing to more than $60 billion by March 31, 2017. The UCRP portfolio gained 10.5 percent for the first nine months of the fiscal year, 1.4 percent above its 9.1 percent benchmark. UCRP gained $5 billion, with $700,000 of that representing performance over the benchmark. Net cash flows were roughly even, with pension payments and contributions being in balance and including $450 million of borrowing from the Short Term Investment Pool (STIP). That borrowing would continue over the upcoming several years, with $375 million approved for the 2017-18 fiscal year. In response to a question from Subcommittee Chair Sherman, Mr. Sterman said that UCRP paid STIP interest equal to STIP's rate of return.

The UCRP asset allocation has been steady over the course of the year. The portfolio was overweight public equity, which increased as a result of market appreciation from 55 percent at the beginning of the fiscal year to 57.1 percent as of March 31, 2017, and underweight private alternative investments. The allocation to private equity decreased one percent, as distributions outpaced the rate of investment. He recalled that the Regents had approved a new long-term asset allocation, with reduced allocation to public equity and allocation to private alternatives double the prior allocation. This shift would be accomplished over a long period of time in a thoughtful, deliberate manner. Mr. Bachher added that private assets were currently quite expensive.

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Mr. Sterman reported that UCRP's returns were driven by public equity, which returned 16.8 percent for the nine months ending March 31, 2017, 2.5 percent above the benchmark. Similar to the GEP, non-U.S. developed equities were stellar, being 32 percent of UCRP's public equity portfolio and returning 23 percent, ten percent above the benchmark, with 90 percent of that over-performance coming from stock selection. The UCRP public equity portfolio was 62 percent active management and 38 percent passive. Financial equities performed very well. Emerging market public equities disappointed, returning eight percent, below the 16 percent benchmark, because of an underweight to Latin America, which outperformed Asian markets in which the portfolio was overweight.

The UCRP fixed income portfolio returned 1.4 percent, 1.5 percent above the benchmark of negative ten bps. The $900 billion UCRP core fixed income, managed almost completely internally by the Office of the CIO, performed well, 80 bps above its benchmark, driven by an underweight to Treasury bonds and overweight to credit. Of the $900 billion UCRP fixed income portfolio, $100 billion was managed externally in an unconstrained strategy and returned more than four percent, exceeding the benchmark by six percent through the end of March 2017. High-yield bonds returned about 8.5 percent, two percent below the benchmark, attributable largely to UC's more conservative portfolio with fewer CCC-rated securities, and underweights to energy, metals, and mining bonds.

UCRP's private equity portfolio returned 8.3 percent, lower than returns of the GEP's private equity portfolio. Mr. Sterman attributed the difference to UCRP private equity's more broadly diversified buyout managers, 33 compared with only 11 in GEP private equity. The high performance of particular managers accounted for a smaller proportion of returns in UCRP. UCRP's private equity co-investment portfolio, which had good returns of 16 percent, accounted for only 15 percent of the UCRP private equity portfolio compared with 40 percent of the GEP private equity co-investment portfolio.

UCRP's real estate portfolio returned 4.2 percent for the nine months ending March 31, 2017 and its absolute return portfolio, which is identical to the GEP's, returned 4.6 percent.

Mr. Sterman reported that UCRP's portfolio risk was similar to its benchmark risk, in spite of UCRP's overweight to public equities and cash. Similar to the endowment, UCRP's risk is idiosyncratic rather than market risk. Discussing long-term returns, Mr. Sterman said that UCRP had returned 7.2 percent over 20 years.

Regent Makarechian asked about projections for upcoming retirees and their salaries. Investment Officer Susie Ardeshir stated that there were 25,000 active faculty with an average salary of $135,000; 92,000 professional support staff with an average salary of $73,884; and 11,382 management and senior professionals with an average salary of $138,498.

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Regent Makarechian asked how the new tier option for the defined contribution retirement plan affected UCRP. Mr. Sterman observed that decisions made by UC's new hires would not affect UCRP investment decisions. UCRP was being invested to meet its liabilities.

Director Marco Merz discussed the UCRSP, which had grown to more than $21.7 billion, the second largest public defined contribution plan in the nation, behind only the Federal Employees Retirement System. UCRSP offers three tiers of options: target date funds, the default investment option; 15 core asset class building block funds; and a brokerage window with access to more than 10,000 mutual funds. The UCRSP had more than 311,000 participants. As of July 1, 2016, UC's new hires could choose to participate in either the defined benefit UCRP with the California Public Employees' Pension Reform Act cap of $116,000, or the defined contribution UCRSP. At this time, 60 to 65 percent of both staff and faculty new hires who make a choice select the defined contribution plan.

In response to a question from Subcommittee Chair Sherman, Mr. Merz stated that the average savings rate of 10.5 percent was the employee savings rate, not including employer contributions. Historically, the UCRSP was only a supplemental savings plan for UC employees with no match. Under the new tier, employees would save seven percent and the employer would contribute eight percent, for a total 15 percent. The UCRSP includes a 403(b), 457(b), and the defined contribution plan. The 403(b) plan is the largest in the nation and holds 70 percent of UCRSP assets.

Mr. Merz discussed how participants were currently investing their money. Almost 90 percent of UCRSP assets were held in six funds: $6 billion in the default Target Date Fund; $4.2 billion in the UC Savings Funds; $4.4 billion in the 100-percent equity UC Global Fund; $1.6 billion in the UC Balanced Growth Fund; $1.2 billion in the UC Bond Fond; and $1.4 billion in the brokerage window.

Regent Makarechian asked how UC employees were educated about investment options. Mr. Merz responded that the Office of the CIO was responsible for choosing investment options and Human Resources offers a robust program to educate participants on investment choices. Mr. Merz expressed his view that shifting more assets to the Target Date Funds would improve outcomes for participants, since those funds allocate money on participants' behalf according to their age, and have a diversified underlying asset allocation in eight funds and a glide path that reduces risk over time. Studies have shown that participants who build their portfolios on their own underperform the default Target Date Funds by an average of three percent. Mr. Bachher stated that he would encourage Mr. Merz to partner in educational efforts, even though the Office of the CIO was responsible only for the investments. It would be important that external investment firms who partner with the UCRSP offer balanced educational components that could be provided to UC employees. Regent Makarechian asked if UC should recommend certain investments for employees. Regent Kieffer said that the University could provide information and factual background, but not investment advice. Mr. Bachher said he had

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suggested that his office create a balanced growth fund that mirrors UCRP and another fund that mirrors the GEP as investment options for UC employees.

Mr. Merz recounted changes to the UCRSP over the past five to six years, all with the goal of improving participant outcomes. In 2014, the Target Date Fund was made the default investment; in 2015, UCRSP investment choices were streamlined from 85 to 16 funds; and management costs were reduced to the current average of seven basis points. By the end of 2017, the Office of the CIO would hire a third-party manager for the Target Date Fund to further improve outcomes for participants. The Office of the CIO had undertaken a public procurement process and issued a Request for Proposals, to which it had received 15 responses. Four finalists were interviewed and a finalist has been chosen. The Office of the CIO would further streamline investment options by eliminating the Balanced Growth Fund and the UC Global Fund and redirecting the funds to similar investment choices. The Office of the CIO would work to reduce UCRSP management fees even further. Mr. Bachher affirmed that UC would continue to leverage its size and scale to reduce UCRSP management costs.

Regent Makarechian asked if employee contributions to UCRSP were coordinated through UCPath. Mr. Bachher said he did not know the status of UCPath's implementation in that regard. Mr. Merz commented that the administrative functions of UCPath are managed by Human Resources. He would provide Regent Makarechian with this information.

Mr. Sterman reported on the working capital portfolio, which held \$14.5 billion as of March 31, 2017, with 68 percent in TRIP and 32 percent in STIP. Both TRIP and STIP were functioning as intended. Since its inception, TRIP had earned seven percent returns compared with 2.1 percent for STIP. TRIP had assets of \$8.9 billion as of March 31, 2017, matching its assets at the beginning of the fiscal year. Market gains and value added totaling \$500 million were offset by similar cash outflows of annual payments to UC campuses and withdrawals for individual projects on the campuses. Throughout the year, TRIP's asset allocation had been within one or two percent of its long-term target of 35 percent equities, 50 percent fixed income, and 15 percent absolute return. The portfolio had a slight overweight to equities and underweight to fixed income. At the end of March the portfolio had 1.5 percent cash. TRIP returned 5.2 percent for the first nine months of the fiscal year, 1.1 percent above its benchmark. The key driver of returns was public equities. TRIP's stock implementation is 100 percent passive and equity returns were 14 percent through March. Three years prior, the TRIP equity portfolio had management fees of about 98 bps, with some additional performance fees. Currently, those management fees for a passive implementation were two bps. TRIP's fixed income returns were 40 bps, above the benchmark of negative 1.7 percent. TRIP's exposure to more investment grade and high-yield credit along with a small amount of emerging market credit of shorter duration than the benchmark helped returns. TRIP's absolute return portfolio returned 4.5 percent. Absolute return costs had been reduced to 65 bps with no management fee, whereas two and a half years prior they had been one percent management fee and ten percent performance fee. Over that time, TRIP's overall management cost has been reduced from roughly 50 to 60 bps to 20 bps.

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Mr. Sterman discussed TRIP's payout rate, which had been six percent from TRIP's inception in 2008 to 2013, and 4.75 percent from 2014 through 2017. TRIP's asset allocation had been changed one-and-a-half years ago to reduce risk, with a larger allocation to fixed income and a smaller allocation to growth assets. The goal of TRIP is to provide steady income to the campuses and to grow TRIP at the rate of inflation. Over the past few months, the Office of the CIO had Mercer Consulting simulate several scenarios of payout rates ranging from the current 4.75 percent to three percent, and a glide path to a lower rate. Using that analysis and discussions with the Office of the Chief Financial Officer and UC campus finance offices, the Office of the CIO concluded that the best course would be to move on a three-year glide path from 4.75 percent payout rate to four percent. The upcoming fiscal year's payout rate would be 4.5 percent.

Regent Makarechian asked if the medical centers' cash flows were taken into account or if they were considered separately. Mr. Sterman responded that he did not know how the medical centers were accounted for. His office's focus was on TRIP's asset allocation and expected returns over the long term. Regent Makarechian cautioned that possible changes in healthcare law could increase the medical centers' need for liquidity.

Subcommittee Chair Sherman asked about the status of encouraging the campuses to move funds from STIP to TRIP or the GEP, to gain higher returns. Mr. Sterman responded that dialogues with the campuses were ongoing. There were one or two Funds Functioning as Endowments (FFEs) in progress at the current time that would move funds from STIP to the GEP. He noted the constraint of the ratings agencies' requirement that $5 billion be retained in STIP. However, the ratings agencies had agreed to allow more flexibility and consider some fixed income assets in TRIP as part of the University's liquidity. This would permit more funds to be moved from STIP into TRIP. Also the campuses could consider moving funds with longer time horizons currently held in TRIP to the GEP to increase returns. These discussions were being held with the campuses. Mr. Bachher pointed out that moving $1 billion from STIP into TRIP would earn an additional $40 million a year. Subcommittee Chair Sherman asked if campuses could choose later to move funds from the GEP back to TRIP or STIP. Ms. Ardeshir said that five percent of the market value of the funds could be moved back. Subcommittee Chair Sherman said that these restrictions could contribute to campuses' hesitancy to move funds into the GEP. Mr. Sterman provided reassurance that 90 to 95 percent of the TRIP portfolio was highly liquid.

Mr. Sterman discussed STIP, a high-quality, short-duration portfolio with an average credit rating of A and duration of slightly less than one year. Through March 31, 2016, STIP returned 0.9 percent, 50 bps above its benchmark. He reported that STIP was functioning very smoothly and no changes were anticipated.

Mr. Bachher summarized that STIP returns reflected the low-growth environment. The Office of the CIO focuses on risk management and risk allocation, and on collaboration internally with UC campuses and externally with investment partners. UC has the competitive advantage of its innovation. The UC Ventures Program's Bow Capital was in operation. UC is a leader in sustainable investing. The Office of the CIO has created an

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investment fellows program with the goal of employing ten UC students a year. As these students leave the Office of the CIO and move on in the working world, they will strengthen UC's alumni network and potential future partnerships with the Office of the CIO. The Office of the CIO had also absorbed the cash and liquidity management team from the Office of the Chief Financial Officer.

Mr. Bachher expressed sadness at the recent passing of former members of the Investment Advisory Group, Charles Martin and T. Gary Rogers. Mr. Martin was known for his effect in increasing entrepreneurship in Orange County and at UC Irvine. His contributions to the Investments Subcommittee will be remembered. Mr. Rogers was a vocal advocate of ensuring the best possible performance for the GEP. He was a passionate, committed leader who would leave the motivation to continue to do the best for the University of California.

Regent Kieffer expressed support for the Office of the CIO's cooperative approach with the campus foundations. He asked if asset allocations should be reviewed given current market conditions. Mr. Bachher responded that it would be valuable to discuss the outlook for various asset classes and asset allocations at a future meeting.

Subcommittee Chair Sherman summarized that over the nine months ending March 31, 2017, UCRP, the GEP, and the working capital earned $7.3 billion. Significantly, returns above benchmarks were $1.1 billion. He congratulated Mr. Bachher and his team.

4. **INVESTMENT POLICY STATEMENT REVIEW**

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

Associate Chief Investment Officer (CIO) and Chief Operating Officer Arthur Guimaraes discussed the Office of the Chief Investment Officer's plans to undertake a thorough review of the Investment Policy Statements and other Regents policies related to investments to align with the new committee structure and governance. This review would seek to assign responsibilities and roles appropriately among the Board, the Finance and Capital Strategies Committee, the Investments Subcommittee, and the Office of the CIO. For example, consideration of asset classes and benchmarks should be at the same level. These roles and responsibilities should be clarified in the charter of the Finance and Capital Strategies Committee and the Investments Subcommittee. Mr. Guimaraes planned to bring proposed changes to the Investment Policy Statements of various products to future Subcommittee meetings.

Regent Makarechian expressed support for this review.

Investment Officer Susie Ardeshir stated that the Investment Policy Statements reflect governance, a critical component of prudent management. Good governance would result in better outcomes. The Office of the CIO would work with its consultants, the Office of the General Counsel, and the Regents on this review. Proposed changes would be brought

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to the Subcommittee for discussion at future meetings. Regent Makarechian requested that any proposed changes be provided to the Subcommittee a few weeks in advance of the meetings to allow time for review.

The meeting adjourned at 5:00 p.m.

Attest:

Secretary and Chief of Staff

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