The Regents of the University of California

INVESTMENTS SUBCOMMITTEE
September 25, 2018

The Investments Subcommittee met on the above date at the Luskin Conference Center, Los Angeles campus.

Members present:	Regents Anderson, Anguiano, Park, and Sherman; Ex officio member Makarechian; Advisory members Bhavnani, Main, Simmons, and Um; Chancellor Hawgood; Student Advisor Huang; Advisory member Zager
In attendance:	Regents Elliott, Graves, Leib, and Zettel, Regent-designate Weddle, Faculty Representative May, Secretary and Chief of Staff Shaw, Chief Investment Officer Bachher, Executive Vice President and Chief Financial Officer Brostrom, Chief of Staff and Special Counsel Drumm, and Recording Secretary McCarthy

The meeting convened at 1:05 p.m. with Subcommittee Chair Sherman presiding.

He welcomed the Subcommittee's new advisor, Drew Zager, noting that the Subcommittee's charter allows it to have expert advisors as non-voting members. Mr. Zager is the founding director and chair of the UCLA Investment Company and a member of the board of directors of the UCLA Foundation.

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 person addressed the Subcommittee concerning the items noted.

Mr. Aidan Arasasingham, second-year UCLA student and board member of the UC Student Association, thanked the Regents and the UC Office of the President for their joint advocacy with UC students for increased State funding in UC. He expressed support for establishment of the Blue and Gold Endowment as a means to help make up for State disinvestment in UC. He commented that endowment returns over the long term should be invested in programs that benefit students. Students would appreciate further engagement with the Office of the Chief Investment Officer and the Regents about the allocation of endowment returns to support student services and student financial aid.

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

Upon motion duly made and seconded, the minutes of the meeting of May 22, 2018 were approved.

3. **DEVELOPMENT OF NEW INVESTMENT PRODUCT: BLUE AND GOLD ENDOWMENT**

[Background material was provided to Regents 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 that ten years prior UC created the Total Return Investment Pool (TRIP), which currently had assets of about $9 billion. TRIP had met its objective to earn higher returns than the Short Term Investment Pool (STIP). Mr. Bachher said there was a need for a new Office of the CIO investment product with risk and return characteristics between TRIP and the General Endowment Pool (GEP). Collaboration with UC campuses and the Office of the Chief Financial Officer indicated a need for a mechanism to invest assets to produce returns similar to the GEP, but at lower cost and with more liquidity. These discussions led to the design of the proposed new investment product, the Blue and Gold Endowment.

Managing Director Sam Kunz explained that the strategic asset allocation of the Blue and Gold Endowment would attempt to capture the liquidity premium and the diversification premium, while serving its liabilities in the best way. The Office of the CIO explored possible asset allocations for potential performance, risk, and volatility, to position the Blue and Gold Endowment between TRIP and the GEP. The new product would be intended for longer-term funds than those held in TRIP. Mr. Kunz said this analysis indicated that an asset allocation of 70 percent equities and 30 percent fixed income would be optimal.

Executive Vice President and Chief Financial Officer Brostrom commented on the relationship between the proposed Blue and Gold Endowment and UC's operating budget. In an effort to build a more sustainable financial model for the University, his office had moved to diversify the University's revenue streams, for instance by establishing TRIP, which had been extremely successful, averaging five percent higher returns than STIP, adding $450 million each year to discretionary revenue that flows to UC campuses. Creating the Blue and Gold Endowment would be another step to optimize UC's assets, and its revenues would be entirely discretionary as Funds Functioning as Endowments (FFEs) with payouts supporting campuses' core operating missions. Unlike the GEP, with funds almost entirely restricted, the Blue and Gold Endowment revenues would be almost entirely unrestricted.

Mr. Brostrom pointed out that the University would have to maintain certain levels of liquidity. As UC's medical centers grow, UC's rating agencies and investors expect a higher degree of liquidity. Mr. Brostrom's office would work with rating agencies to have some degree of liquidity assigned to the Blue and Gold Endowment, particularly since it would be entirely passively invested.

Mr. Brostrom pointed out that there is a large spectrum of resources across the UC system, with some campuses having far more investible assets than others. His office would continue to work to ensure that all UC campuses have the resources they need to ensure quality and access.

Subcommittee Chair Sherman asked about the expected cost to establish the Blue and Gold Endowment and ongoing management costs. Mr. Kunz commented that if some of the core fixed income holdings were managed internally he anticipated management costs of about eight basis points for equities and close to zero for fixed income. The actual costs would depend on implementation, but he anticipated overall ongoing management costs to be between five and ten basis points. Mr. Bachher commented that there would be no additional administrative fees.

Regent Anguiano asked about demand for a product like the Blue and Gold Endowment and what uses the chancellors would make of the revenues. Mr. Brostrom said there was significant demand. In the past several years, campuses had moved $2.6 billion in excess returns from TRIP into FFEs in the GEP. Funds moved to the Blue and Gold Endowment would not be limited to annual payouts, but could be drawn more frequently. He anticipated gradually funding the Blue and Gold Endowment over four years, and thought half of the working capital could be moved into the new product. The discretionary revenue could be used by UC campuses for deferred maintenance, salaries, or other operating costs.

4. **UPDATE ON INVESTMENT PRODUCTS**

[Background material was provided to Regents 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 said this report would cover investment performance for the fiscal year ending June 30, 2018. Assets under management of the Office of the CIO grew during the fiscal year from $109.8 billion to $118.7 billion, and to $120 billion by September 1. These returns were driven by gains in public markets. Total assets include the $12.3 billion endowment; the $66.8 billion pension, which had grown from $52.1 billion in the past four years; the $24.3 billion UC Retirement Savings Plan (UCRSP); the Total Return Investment Pool (TRIP) with close to $10 billion; the $5.1 billion Short Term Investment Pool (STIP); and Fiat Lux, UC's captive insurance program with $0.9 billion. Overall, these assets were invested 73 percent in the United States. The Office of the CIO continuously seeks attractive investment opportunities in other geographic areas, particularly in developed economies.

For the fiscal year, the endowment earned 8.9 percent, the pension earned 7.8 percent, TRIP earned 4.5 percent, and STIP earned 1.7 percent. Five-year returns were roughly the same as one-year returns. Mr. Bachher emphasized the importance of focusing on the long term goals of meeting the pension discount rate, the endowment payout, and the operating obligations of the working capital, while being defensively positioned with cash ready to invest in attractive opportunities.

Senior Managing Director Edmond Fong discussed the endowment. UC's systemwide endowment assets totaled $20.5 billion, including $12.3 billion in the General Endowment Pool (GEP) and $8.2 billion in UC campus foundations. The GEP was comprised of more than 5,700 individual endowments, largely supporting various UC departments, research, and campus improvements. The GEP aims for a 4.75 percent real rate of return over a five-year rolling period. The GEP's policy asset allocation was 41 percent public equities. The GEP's fiscal year gain of 8.9 percent was 40 basis points above its benchmark. When inflation was considered, returns of seven to eight percent would be required to achieve a 4.75 real rate of return. In the current low-return environment, adding value above the benchmark would be important.

For the fiscal year, the GEP had increased from $10.8 billion to $12.3 billion, having enjoyed $600 million in market gains, $100 million in value added above the benchmark, and net cash flows of $800 million. The GEP's volatility on an ex-ante basis was 6.5 percent. Mr. Fong noted that the GEP was modeled with a long-term volatility target of 13 percent. However, this did not mean that the GEP had half the targeted risk, but rather reflected the market's compressed volatility over the past several years. He did not expect the GEP's volatility to remain at current levels over the upcoming five to ten years. The majority of the GEP's current risk was driven by economic growth factors relating to the procyclical bent in the positioning of the portfolio.

Mr. Fong recalled that two years prior, the Regents approved a change in the GEP's strategic asset allocation, to which the Office of the CIO was transitioning the portfolio. The allocation to private markets had been increased from 40 percent to 60 percent, with a corresponding reduction in public equities from 40 percent to 30 percent, and a reduction in liquidity to ten percent. This transition would be made conservatively, when attractive opportunities became available. The GEP held more than ten percent cash at the beginning of the fiscal year. Over the past year, some of this cash had been deployed into attractive opportunities in absolute return and real assets, classes whose returns should not necessarily be correlated with larger market returns and would be able to add portfolio resiliency during a downturn. Given current valuations of private equity, the Office of the CIO would be conservative in moving toward the goal allocation of 23 percent. Co-investments had been used to moderate risk and gain value. He anticipated a continued decline in the GEP's cash balance as prudent investment opportunities were found, for example in private real estate. Importantly for UC students, the GEP had paid out $4.3 billion over the past 20 years. In the past five years, the GEP had $2.6 billion in inflows.

Regent Makarechian referred to a bar chart showing the investment performance of the various products of the Office of the CIO, and asked why the endowment generally had higher returns than the pension. Mr. Bachher said the pension and the endowment have different asset allocations. The asset allocation for the endowment can be more aggressive from a risk perspective and can include more illiquid assets, which have a higher expected return. Mr. Fong added that the best-performing asset class over the past two years had been private equity, which gained 22 percent for the past fiscal year.

Regent Makarechian asked about Mr. Fong's intention to increase real estate holdings and cautioned that the public equity portion of the portfolio also contained exposure to real estate and the liquidity portion could contain bonds secured by real estate. It would be important to consider the portfolio's total real estate exposure. Mr. Bachher agreed, noting that overall risk allocation would consider exposure across the portfolio, by decomposing asset classes into their underlying holdings.

Subcommittee Chair Sherman expressed his understanding that the GEP's returns were higher than the median of large university endowments. Mr. Bachher said the top 20 U.S. university endowments had annual returns ranging from 7.5 percent to 14 percent. Some endowments had higher allocations to private markets. The GEP returns would be in the top quartile of the Cambridge Associates' peer group of roughly 300 university endowments. Mr. Bachher congratulated the UCLA and UCSF Foundations on their excellent returns of the past fiscal year.

Senior Portfolio Manager Satish Swamy reported on the UC Retirement Plan (UCRP), which has 237,000 members, and retirees who earn an average annual income of $44,000. The Office of the CIO manages the pension to meet or exceed its 7.25 percent discount rate. With assets of $66.8 billion and present liabilities of $73 billion, UCRP is 87 percent funded. The pension's policy allocation included 52.2 percent in public equity and 21.5 percent fixed income. UCRP earned 7.8 percent for the fiscal year, 6.5 percent for three years, 8.2 percent for five years, 6.4 percent for ten years, and, importantly, 8.3 percent for 25 years. Mr. Swamy commented that the combination of a strong equity bull market and the long term decline in interest rates had helped maintain UCRP's healthy rate of return over the past 25 years.

UCRP ended the fiscal year with assets of $66.8 billion. Market gains were $5.2 billion; value added was negative $300 million. There was a net cash flow of $300 million, reflecting the difference between contributions and distributions. Contributions included employee and employer contributions, and $391 million in lending to UCRP from STIP.

Mr. Bachher commented that UCRP earned less in the past fiscal year than if it had been passively invested in its benchmark. He asked Mr. Swamy to explain why the value added was negative. Mr. Swamy reported that 60 percent of the UCRP public equity portfolio was invested with active managers, who underperformed the market. Mr. Bachher noted that TRIP's public equity portfolio, which was completely passively invested, gained 12.6 percent.

Mr. Swamy observed that the U.S. economy was performing well, but cautioned that positive effects of tax cuts and repatriation of overseas' earnings may be unsustainable. The Federal Reserve Board of Governors was increasing interest rates and tightening monetary policy. Concern about the implementation of the British vote to withdraw from the European Union and uncertainty about U.S. tariff wars could undermine consumer confidence.

Current portfolio asset allocations were 54.4 percent in public equity, 20.1 percent in fixed income, 16.5 percent in alternative investments, and nine percent in cash. The strategic long-term asset allocation was 50 percent public equities, 20 percent fixed income, and almost 30 percent in other investments. With rising interest rates, the role of fixed income in the portfolio had been redefined. Fixed income would be used for diversification and to provide liquidity in times of market duress. The Office of the CIO would invest patiently, with a focus on the long-term health of the pension plan.

Chief Risk Officer Rick Bookstaber commented on the 86 percent of the UCRP risk allocation attributable to economic growth factors. Economic growth factors weave through all the asset classes, which all have a common exposure. To temper the amount of this factor in UCRP's exposure, one could reduce public equity allocation or use a hedge. Mr. Bachher added that the Office of the CIO had held cash as a defensive position.

Regent Makarechian asked about the number of active UC employees contributing to UCRP compared with the number of retirees. He expressed concern about the large number of active employees nearing retirement and the effect that would have on the health of the pension. He advocated urging the State to contribute its share to UCRP, as it does with California State University and the California Community Colleges. Mr. Swamy commented that UCRP's 2015 actuarial study was being updated and results would be reported to the Regents.

Director Marco Merz discussed the UCRSP, which the University launched 50 years prior to offer UC employees a way to save for retirement in addition to the pension. The UCRSP, with $24.3 billion in assets, is the second largest public defined contribution plan in the nation. UC's $17 billion 403(b) plan is the largest 403(b) in the nation. UC employees save substantial amounts above the mandated UCRP savings rate. The UCRSP offers its 315,000 participants three tiers of investment options: the default target date funds, 12 core asset class building blocks, and a brokerage window. The average management fee is just six basis points.

The target date pathway funds offer participants a well-diversified portfolio of 12 underlying asset classes, with a glide path that reduces risk steadily over time as a participant approaches retirement. Over the past five years, all pathway fund returns were above their benchmarks. Some portions of the pathway funds' portfolio were actively managed: emerging market equities by an external manager and fixed income, which was internally managed by the Office of the CIO. The pathway funds were performing exactly as they had been planned to do. During the past four years, the number of UCRSP investment options had been reduced from 74 funds to 13. The average management fee had been reduced from 14 basis points in 2015 to six basis points currently.

Mr. Merz planned to add an environmental, social, and governance investment option and an alternative investment option. He also hoped to incorporate guaranteed income, as UC employees have the choice to move from a defined benefit retirement program to an exclusively defined contribution program.

Senior Managing Director Steven Sterman reported on the working capital portfolio, holding funds set aside by UC campuses for near- and medium-term project expenses and initiatives. Short term needs such as payroll and other budgetary expenses over the coming year or two are held in STIP, very secure and low risk. Medium-term funds for items three to seven years in the future are held in TRIP, with its somewhat more risky asset allocation than STIP. All money going in and out of the working capital portfolios flows through the UC banking system, run by the Office of the CIO's Treasury and cash management team. The team works very closely with the campuses to procure banking services globally as University activity increases around the world, to ensure best practices, risk controls, and to leverage the size and scale of the system to reduce fees for those services.

Mr. Sterman said the working capital portfolios have a conservative asset allocation, with 68 percent fixed income. In the ten years since its inception, TRIP has succeeded in generating higher returns than STIP. For the fiscal year, TRIP generated $250 million in additional returns over STIP returns. Mr. Sterman anticipated the differential between TRIP and STIP returns to decrease to two to three percent in the future, as short-term rates rise and STIP's yield increases.

Working capital total assets were stable at slightly more than $14 billion for the fiscal year. Market gains offset outflows. One major outflow was $391 million lent from STIP to UCRP. Several campuses reviewed their working capital needs and moved a total of $500 million from TRIP to the GEP to gain higher returns. Both TRIP and STIP had modest outperformance over their benchmarks. STIP returned 1.7 percent overall and TRIP returned 4.5 percent. In TRIP, excess returns were generated in public fixed income, private income, and private equity. TRIP's asset allocation was steady during the year, with a slight overweight to growth and a slight underweight to income. TRIP ended the fiscal year with a 4.1 percent in cash from an absolute return redemption. That cash would be redeployed in the coming month or two. STIP's asset allocation was also steady. As interest rates increased, commercial paper was drawn down and two- to three-year Treasury bonds were added as those yields became more attractive. STIP remains a very high-quality, short-maturity portfolio, with the guiding principles of safety and liquidity.

Subcommittee Chair Sherman asked about minimum levels of liquidity required by rating agencies. Mr. Sterman said the minimum remained $5 billion, a combination of $4 billion in STIP and $1 billion in TRIP.

Subcommittee Chair Sherman asked about the portfolios' duration. Mr. Sterman stated that TRIP's had been underweight in duration at 4.5 to five years, compared with the benchmark's 5.5- to six-year duration.

Regent Makarechian asked if these liquidity requirements were in addition to UC medical centers' own liquidity. Mr. Sterman said the TRIP and STIP accounts include the total campus and hospital holdings in those portfolios. Regent Makarechian questioned holding BBB-rated bonds. Mr. Sterman said his team was very conscious of credit quality and has an internal credit team that reviews all credit purchases.

Advisory member Zager asked if STIP should have a net asset value of one dollar, or a floating net asset value. Mr. Sterman agreed that the portfolio would experience pressure in pricing as interest rates increase. The net asset value is maintained by managing liquidity on a daily basis. Mr. Sterman's team works closely with the Treasury and cash management team to forecast daily, weekly, and monthly cash needs. The portfolio is laddered to meet those cash flow needs. Should interest rate increases accelerate much more quickly, the net asset value might have to be reconsidered.

Senior Managing Director Sam Kunz discussed Fiat Lux, UC's captive insurance program, which the Office of the CIO had managed for two years. The portfolio had $1 billion in assets and $900 million in liabilities. Fiat Lux had 30 types of insurance coverage, the largest being workers' compensation and medical malpractice. New lines of coverage were being added. Fiat Lux's current policy asset allocation was 65 percent fixed income, 21 percent cash, and 14 percent public equities, which are invested passively. The portfolio was 4.3 percent overweight income and 4.5 percent underweight cash. For the fiscal year, the portfolio returned 1.9 percent, including 75 basis points of outperformance. Mr. Sterman's team would internally manage $180 million of core fixed income and $140 million of Fiat Lux cash in STIP.

Investment Officer Matt Webster reported that the private equity portfolio generated a 20.1 percent return for the fiscal year across UCRP and GEP. The key driver of performance was its co-investment program. In February, the Office of the CIO realized its stake in Duff and Phelps, which he said was a landmark transaction for UC. Mr. Webster said the private equity portfolio had become more concentrated, with the average investment size increasing from $41 million in 2013 to $67 million currently, and the number of external managers shrinking from 79 to 49. This concentration had allowed the Office of the CIO to foster deeper relationships with its partners, increase access to co-investment, and lower fees. In the upcoming year, the private equity team would focus on continuing to source co-investments from its partners, identifying attractive international opportunities, and seeking investments that would help mitigate the J-curve effect in its growing portfolio. Mr. Webster expressed enthusiasm about the current pipeline of opportunities. Mr. Bachher congratulated the private equity team on an excellent year, with 49 percent returns. He cautioned that these returns were not likely to be repeated.

Subcommittee Chair Sherman asked what portions of the Office of the CIO's private equity assets were fund-driven or co-investments. Mr. Webster responded that 80 percent of private equity assets were invested in funds and 20 percent in co-investments. Mr. Sherman asked if the Office of the CIO was regularly able to have a role in management of co-investments now that it was making larger investments with fewer external partners, and if the Office of the CIO would be sought out first for co-investment opportunities. Mr. Webster answered in the affirmative, confirming that the scale of UC's investments led partners to seek co-investments with UC before other limited partners.

Director Ronnie Swinkels reported on the public equity portfolio, which underperformed its benchmark in the pension by 90 basis points, mainly because of its underweight to U.S. equities, particularly the technology sector, which had large gains. Public equity in the endowment underperformed its benchmark by ten basis points. The Office of the CIO would gradually increase the passive investment of its public equity portfolio in the pension plan over the upcoming two to three years. The actively invested portion of the public equity portfolio would become more concentrated with fewer managers focused on markets that are efficient, particularly emerging markets, Europe, and other markets outside the U.S.

Senior Managing Director Gloria Gil explained that the Office of the CIO's real estate portfolio, currently with assets of $3.7 billion, including $3.2 billion in UCRP and $500 million in the GEP, was invested 98 percent in the U.S. and two percent internationally, 50 percent separate accounts and 50 percent in co-mingled funds. For UCRP, real estate returned 8.8 percent for the fiscal year, 170 basis points above the benchmark; for GEP, real estate returned 9.7 percent, 260 basis points above the benchmark. Core assets were held in UCRP and value-added and opportunistic assets were held in GEP. Top contributors to performance had been the portfolio's high-conviction on industrial assets, which Ms. Gil anticipated to be the third area to recover after multi-family and office assets. Two open-end funds returned almost 20 percent. The real estate separate accounts are considered core assets. Ms. Gil expressed her preference for assets to renovate, re-lease, or reposition. Two assets, one in Oakland and one in Houston, delivered 15 percent returns. Single-family housing, attractive because of the shortage of housing for first-time homebuyers, had delivered good returns for GEP. In the future, Ms. Gil would invest more defensively, and looking for investments in senior housing, student housing, medical offices, and grocery, and for assets in international markets.

Subcommittee Chair Sherman asked if the real estate portfolio held loans. Ms. Gil said loans were held in the separate account assets. To minimize interest rate risk, all have been swapped or fixed.

Regent Makarechian asked if the real estate portfolio had outstanding commitments. Ms. Gil said her portfolio had committed almost $1 billion in December that would be invested over the upcoming three years.

Regent Anderson asked how credit holdings in the real estate portfolio were classified. Ms. Gil explained that some were classified as fixed income, but the real estate portfolio also had a debt program, a senior loan program of very small size, only $150 million.

Faculty Representative May asked if the Office of the CIO had considered investing in faculty housing. Ms. Gil commented that new accounting rules limit the Office of the CIO's investment in UC campus housing to 20 percent, with 80 percent outside investors. The Office of the CIO could be the only investor in off-campus housing.

Managing Director John Ritter reported on real assets other than real estate. He said the real assets portfolio was in transition, as it had been growing from the smallest Office of the CIO portfolio to be a bit larger. Also, its investment in natural resources had been reduced from 70 percent in 2014, predominantly upstream oil and gas companies, to 45 percent currently. The portfolio had increased holdings in infrastructure and opportunistic investments, including almost $900 million in sustainable and renewable energy such as solar and wind. The real assets portfolio was a work in progress, moving toward a more traditional portfolio, highly cash-flow centric and downside protected.

Chief Operating Officer Guimaraes recalled that, four years prior, the Office of the CIO had 13 operations professionals; currently there were 12, while assets had grown by more than 30 percent, or $10 billion per operations professionals. The Office of the CIO had focused on increasing efficiency through use of technology. Processes have been improved for internal controls, such as the creation of a valuation policy for all alternative assets and a valuation committee that governs year-end valuations of private assets. The benefit of being the University of California is experienced through tools and technology used by the Office of the CIO, such as the implementation of a true data platform, which is about half completed.

Mr. Bookstaber commented that, although markets were at high levels, and volatility was at about six or seven percent, in a normal market volatility would be around ten or 11 percent. He expressed his view that the appearance of a low-risk environment was ephemeral, but could encourage investors to take more risky positions. Risk was in fact increasing.

Mr. Bachher reported on performance since the end of the fiscal year. As of September 1, 2018, assets had grown to $120.4 billion. When Mr. Bachher joined UC four years prior the Office of the CIO had 48 professionals, 28 investment professionals, 13 operational, and seven support staff. Currently the office had 27 investment professionals, 12 operations staff, four risk personnel, a Treasury team of six that moved from the Office of the Chief Financial Officer, and four current investment fellows of 17 total during the four years. Each investment professional manages an average of $4.5 billion, compared with the $1.1 billion industry average. Reducing the number of external managers resulted in a deepening of relationships with remaining managers and led to what he characterized as an explosive growth in opportunities coming to the Office of the CIO during the past six months. Choosing co-investments at attractive terms would be important. Mr. Bachher emphasized his focus on reducing management fees and overall management cost of the Office of the CIO, resulting in active management of UC's assets for just 26 basis points, or $30 million in operating costs to run the Office of the CIO. The closest peer's management cost would be ten times greater. Over the past four years, the Office of the CIO earned $2.1 billion above benchmark returns. At the end of the fiscal year, the Office of the CIO was defensively positioned, with a conservative approach. Mr. Bachher expressed appreciation for the guidance of the Board of Regents and the Investments Subcommittee.

The meeting adjourned at 3:10 p.m.

Attest

Secretary and Chief of Staff