

The Regents of the University of California

INVESTMENTS COMMITTEE

March 12, 2019

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

Members present: Regents Anguiano, Cohen, Leib, Makarechian, Morimoto, Park, Sherman, and Zettel; Ex officio member Kieffer; Advisory members Bhavnani, Simmons, and Um; Advisor Zager; Chancellors Hawgood and Yang

In attendance: Regent Butler, Secretary and Chief of Staff Shaw, General Counsel Robinson, Chief Investment Officer Bachher, Executive Vice President and Chief Financial Officer Brostrom, and Recording Secretary Li

The meeting convened at 2:20 p.m. with Committee Chair Sherman presiding.

1. APPROVAL OF MINUTES OF PREVIOUS MEETING

Upon motion duly made and seconded, the minutes of the meeting of January 15, 2019 were approved.

2. OVERVIEW OF THE MARKETS AND PERFORMANCE

[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 Bachher began his remarks by explaining that the numbers that would be presented covered June 30, 2018 through December 31, 2018 and that numbers presented from January and February 2019 would be estimates. In December 2018, assets under management totaled \$114 billion. Assets rose to \$118 billion in January 2019, and, at the time of this meeting, assets were estimated at about \$121 billion. This growth happened in the context of the global stock market holding flat from June 2018 through February 2019. Mr. Bachher reviewed the market value of the different categories of assets under management.

In March 2014, the University had \$7.9 billion in Endowment, which grew to about \$12.5 billion in February 2019. UC's retirement system, a combination of the Pension and Retirement Savings, totals to approximately \$90 billion, with the Pension growing 6.5 percent and Retirement Savings growing ten percent per year for the last 30 years. UC investment performance went from negative numbers in December 2018 to positive numbers in February 2019, showing significant growth in a short period of time. The presentation would focus on UC's investment performance compared with market performance, which Mr. Bachher described as "value added." Also in the period of December through February, despite the down period, the Office of the Chief Investment

Officer (CIO) added roughly \$1 billion of market value above what the stock market and bond market had given.

The University invests in three types of assets—stocks, bonds, and private market assets. The bulk of UC's investments is in public equities, and changes in the asset allocation have been driven by changes in the stock market. Last year, interest rates rose nearly four times, and stock markets seemed to be in continuous escalation. The repatriation of capital and changes to U.S. tax policies helped fuel the stock market. U.S.-China trade relations remain an issue affecting the markets. Mr. Bachher's recent trip to Hong Kong revealed that the United States' strategic relationship with China fundamentally changed from partner to adversary. India's upcoming election and continued reforms might affect the markets as well. Policies in 2019 and 2020 would temper the market highs of 2018. The U.S. is one of the biggest components of global gross domestic product (GDP), but, in the next five years, China and India will likely add five percentage points. Investors must consider changes to geopolitics and markets. From an asset allocation perspective, public markets may keep rising, stay flat, or experience spikes as seen in December 2018, and UC must consider how to be conservative and defensive in a highly uncertain market.

Marco Merz, Managing Director of Defined Contributions Products, provided an overview of the UC Savings Program, which he stated is closely tied to the Pension. The UC Savings Program had a market value of almost \$23 billion as of December 31, 2018 and was nearing its high water mark of \$25 billion at the time of the meeting. The UC Office of the Chief Investment Officer (CIO) improved key areas for participants of the UC Savings program. First, the Office of the CIO switched the default option to a target date fund to reduce risk and grew the fund's assets from \$3 billion to almost \$9 billion. Second, the Office of the CIO balanced sufficient investment choice without overwhelming participants, reducing 75 fund choices to 14 fund choices. Fund names were changed to be more easily understood. The Office of the CIO also cut management fees from 14 basis points to six basis points to improve cost efficiency, which is drop from \$26 million in fees five years ago to \$13 million in the present day and saves \$130 million in the next ten years. Mr. Merz then provided an overview of all tiers of the UC Savings program: Tier 1's target date funds of nearly \$9 billion, Tier 2's 12 core funds totaling almost \$13 billion, and Tier 3's brokerage window with 10,000 mutual funds. The target date fund is the most important investment vehicle with consistent value added, and it is predominantly passively managed.

Significant changes have been made to the primary retirement benefit for those newly hired by UC. As of 2016, new hires were able to elect Pension Choice or Savings Choice, the latter meaning the employee would forego access to a guaranteed income stream to the Pension. Over last 2.5 years, 35 percent elected Pension choice, and 37 percent of participants elected Savings Choice. New hires who elected Savings do not have access to the Pension, so the Office of the CIO is working on access to some form of guaranteed income for these participants.

Committee Chair Sherman asked whether there was data indicating why participants choose Pension Choice or Savings Choice. Mr. Merz stated that the vesting period for

UCRP is five years while vesting for Savings Choice is one year. Flexibility is an important factor, especially for younger, new hires who do not know if they would be working at the University for five years.

Advisor Zager asked whether there was pushback when the Office of the CIO reduced the 75 fund choices. Mr. Merz responded that feedback has been almost nonexistent and that participants still have the option of the brokerage window.

Regent Zettel asked whether those who select Savings Choice and work at UC for five or more years can switch over to Pension Choice and receive grandfathering credit. Mr. Merz replied that the Office of the CIO was still working with Internal Revenue Service for a second choice window, which Human Resources staff are actively pursuing. There is no grandfathering, but the employee will still have service credit.

Regent Makarechian asked whether investment return performance numbers take into account all funds, and Mr. Bachher responded in the affirmative. Regent Makarechian asked why there was a drop in estimated net inflows. Mr. Bachher replied that the Office of the CIO was trying to maximize Working Capital earnings by moving from the Short Term Investment Pool (STIP) to the Total Return Investment Pool (TRIP) and then from TRIP to the Endowment. Some TRIP funds functioning as endowment (FFE) were moved into the General Endowment Pool (GEP). Some of the STIP and TRIP funds will likely flow into the Blue and Gold Endowment.

Regent Leib stated that he wished to see a detailed discussion on value added that the Office of the CIO team had done. Mr. Bachher responded by reviewing market gains, net cash flow, and value added from September through December 2018. The next presentation would discuss how value has been added. Committee Chair Sherman asked how much impact the UC Savings Plan has on the market gains, net cash flow, and value added, and Mr. Bachher responded that it had no impact on those numbers. He added that the fixed income that the Office of the CIO manages internally is included in the UC investments performance number. Mr. Bachher emphasized that his team achieved \$1 billion of value added by spending three basis points, which is cheaper than an index fund.

Regent Cohen asked whether the expenses of the team are subtracted from the value added. Mr. Bachher responded that expenses were about \$30 million, and value added was a net number that accounted for costs.

Mr. Bachher stated that Working Capital was valued at \$15 billion in December 2018 and that the Blue and Gold Endowment is anticipated to launch at \$1 billion. Interest rates are likely to stay low for longer, the global economy slowing down, and a degree of uncertainty in the markets will continue.

Allen Kuo, Director of Investment Risk Management, began his presentation by stating that 2018 marked the return of a normal risk environment with the backdrop of a rising interest environment. However, the Federal Reserve (Fed) has put raising interest rates on

hold, because markets did not have enough growth to support high interest rates. In 2018, the value of oil dropped more than 30 percent, and the Standard and Poor's 500 Index (S&P) dropped about 17 percent in December. Mr. Kuo introduced Risk 1.0, a framework for measuring risk that looks at past history to inform future risk. In this environment, the main metric would be volatility. Standalone volatility of the Pension is 9.3 percent, up from 6.7 percent in the previous quarter. Strategic benchmark volatility is also 9.3 percent. Active risk is 0.7 percent. Mr. Kuo also reviewed volatility in the asset classes. Public equity has greater volatility than fixed income. There is greater volatility in private equity and real assets, because private equity is determined by measuring economic risk per public market equivalents. Risk for the Endowment is slightly higher at 10.3 percent. Key macroeconomic risk factors that are shared across the asset classes were presented: economic growth proxied by broad, developed market equity index returns; interest rate factors separated into real rates and inflation; credit; commodity; emerging markets; and foreign exchange. The Endowment has more residual risk than the Pension because of the more opportunistic nature of the Endowment investments. Economic growth is further separated into three components: consumption, production, and another category with financials, utilities, and real estate; consumption is the dominant component of economic growth in both the Pension and the Endowment. The benchmark has a lot of economic growth. Although public equity was underweight as of December 31, 2018, economic growth was not as underweight, because economic growth is a part of other asset classes such as real estate. If real rates increase, the University tends to make money.

Richard Bookstaber, Chief Risk Officer and Senior Managing Director of Investment Risk Management, introduced Risk 2.0, which draws from hypothetical situations. For example, if S&P drops by ten percent, UC's public equity portfolio does not drop ten percent because of diversification. If interest rates rise by 100 basis points, fixed income naturally drops, but its effect is countervailed by interest rates' effect on equities. Furthermore, if interest rates did increase by 100 basis points, UC would experience gains because it is underexposed relative to the benchmark for interest rate risk. This tool is useful but limited by isolated conditions. Risk 3.0 is a model that combines several market scenarios at once. This model analyzes exposure as multiple events cascade into each other; and it better reflects the reality of what happens in the markets. UC's portfolios are structured such that multiple events would have a minimal effect—a change of 20 to 30 basis points. This allows the Office of the CIO to pay attention to issues of concern that would not be catastrophic even if they were to occur.

Regent Park asked how the consumption component of economic growth is derived and what factors would have an effect on consumption. Mr. Kuo responded that the Office of the CIO performed principal component analysis on the returns of Standard Industrial Classification (SIC) industries, and it showed that consumption was a dominant factor. Technology is a dominant new industry not as easily classified as an SIC industry, and the Office of the CIO chose to categorize it as consumption, and energy was categorized as consumption as well. Mr. Bookstaber added that this allowed a more detailed analysis of effects on economic growth, such as capital formation and productions versus savings, rates, and consumption. Regent Park asked whether the Office of the CIO noticed things

that would have an impact on consumption patterns. Mr. Bookstaber responded that no further analysis has been done but that it was the natural next stage.

Regent Anguiano asked how this risk information affects decision-making at a leadership level. Mr. Bachher replied that risk numbers help demonstrate potential data errors in the portfolio. Internally, the Office of the CIO regularly convenes an Asset and Risk Allocation Committee to discuss: 1) goings-on in individual markets, 2) asset allocation positioning, and 3) what the numbers indicate regarding risk. At end of meeting, the Asset and Risk Allocation Committee is able to consider the University's position in the public markets, in the private markets, and from a cash perspective. Currently, the first two months indicate a "risk-on" environment, meaning people are comfortable taking risks.

Regent Makarechian noted that the next four or five months seemed critical given Brexit, China, Venezuela, and North Korea. He asked whether the Office of the CIO has flexibility to move assets or an emergency authorization from the Regents is needed. Mr. Bachher responded that the Regents have afforded much flexibility to Office of the CIO. The asset allocation is defined as a range based on historical patterns. He did not see the need for a future emergency meeting, and these Investment Committee meetings serve to keep the Regents informed. Regent Makarechian asked what other defense mechanisms are in place aside from the asset allocation. Mr. Bachher stated that he would provide this information.

3. **UPDATE ON THE ASSET CLASSES AND 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.]

Ronnie Swinkels, Managing Director of Public Equity, began his remarks by reviewing the different investment products within Public Equity. The Endowment and Pension are considered active equity exposure, meaning investments through external managers. Working Capital and Capital Insurance are considered passive equity exposure, meaning there is no value added. The Office of the CIO planned to trim its public equity allocation to make room for more private equities. By the end of fiscal year 2018–2019, the plan is to shift from 46 percent passive equity exposure to 60 percent and a future target of 75 percent. The Office of the CIO plans to have Endowment at 25 percent active equity exposure and 75 percent passive equity exposure, down from 85 percent passive. Working Capital is 100 percent passive equity exposure. Pension and Endowment are underweight by design, and active exposure is mostly in emerging markets outside of the U.S. Pension managers have been reduced; in the past the University had many low-risk managers, paid heavy management fees, and received very little in return. The Pension fund has been concentrated from 4,800 to 2,200 active stocks. Forty-seven percent of funds have majority assets in ten stocks, 41 percent of funds are in customized or separate accounts to align managers better to their strengths, and 94 percent of funds have a hurdle rate or a clawback to prevent overpayment.

Mr. Swinkels provided estimated performance numbers up to February 28, 2019. There has been a zero percent return on the global equity benchmark All Country World Index

Investable Market Index (ACWI IMI). The UC Retirement Plan (UCRP) is expected to be 30 basis points higher, and Endowment made up for some of losses and is down by only one percent.

Regent Leib asked for clarification regarding 47 percent of funds in the public equity market that have majority assets in ten stocks. Mr. Bachher explained that each manager invests this percentage in ten stocks.

Mr. Swinkels stated that funds from Europe, Japan, and emerging markets struggled to surpass the global benchmark. The Chinese stock market has seen significant gains of more than 20 percent after a difficult fourth quarter. In 2019, the Office of the CIO plans to add more managers outside of the U.S.

Regent Makarechian asked whether management fees and hurdles change annually or are tied to returns and also asked for more information about the clawbacks. Mr. Bachher responded that the Office of the CIO negotiated or had active discussions with almost every manager. Managers typically have a performance fee component or a flat fee, which is tied to long-term performance.

Mr. Swinkels stated that the U.S. has performed well in public equity in last ten years compared with the rest of the world. There are currently more underfollowed stocks in Europe due to regulatory reasons. China has the second largest stock market in the world after the U.S., overtaking Japan, and has great potential despite volatility. India's emerging market also has great growth potential, but managers are needed on location to observe volatility.

Committee Chair Sherman asked whether any managers short sell in public equities. Mr. Swinkels responded that UC has no managers who only short sell and that all managers either sell long-only or long-biased. Their work would be 80 percent long and 20 to 25 percent short side. Short selling is only done if there is value added. Committee Chair Sherman asked whether managers who do some short selling experience the same volatility as a long-only manager. Mr. Swinkels responded that short managers experience less sensitivity to the market because short selling has less directional exposure. A manager must have proven success in short selling before joining UC's portfolio.

Advisory Member Zager asked whether long-short selling was compared with long-only selling in the last quarter. Mr. Swinkels responded that long-short funds struggled in December 2018 and that these were not a large part of the UC portfolio. Mr. Bachher added that fewer managers meant making fewer decisions that were also higher quality because the Office of the CIO team was no longer spread thin over so many managers.

Regent Morimoto commented that public equity markets were probably the most challenging for continuously creating alpha and asked whether the percentage of UC's passive equity exposure will go higher. Mr. Bachher responded that the decision is split, adding his personal belief that active equity exposure has its challenges but sometimes performs well. The Office of the CIO is trying to do that with fewer managers and it was

moving toward 60 to 70 percent passive equity exposure. Mr. Bachher wanted Mr. Swinkels and his team to focus on active equity exposure and the alpha it generates.

Steven Sterman, Senior Managing Director of Fixed Income Investments, provided an overview of Fixed Income. He stated that the retirement plan was the greatest consumer of fixed income product. The income allocation is over 21 percent, with core fixed income at 14 percent, Treasury Inflation-Protected Securities (TIPS) at about two percent, and both high-yield and emerging market at 2.5 percent. Fixed income is a part of the portfolio because it mitigates risk. By the end of December 2018, the Office of the CIO managed \$36 billion in assets, \$14 billion or 40 percent of which comes from the Pension. In October 2018, Federal Reserve System Chairman Jerome Powell implied that the Fed would continue to raise rates, which caused concern about a potential recession and marked the start of volatility. The Fed has referred to the inflation target as symmetric. Core Consumer Price Index data indicated that inflation is still under control. Mr. Bachher added that the discount rate in the pension plan is assumed by the actuary to be three percent over the long term. Mr. Sterman stated that the Office of the CIO has been able to generate alpha over the lower return numbers. The Office of the CIO has been more cautious in high yield and prevent losing money, and the team was prepared to trail the benchmark until better opportunities present themselves. The team has tried to be conservative in its credit analysis on the public side and has been methodically bringing down UC's investment-grade credit exposure. The Office of the CIO has built a \$500 million portfolio in private credit. The market has been aggressive and the team will wait for better opportunities.

Advisor Zager asked whether the disjunction between stocks and bonds will continue in light of the market rally while government bonds have held flat during October 2018 through December 2018. Mr. Sterman responded that, firstly, the ten-year treasury has come down. His considerations were: the bond market inflation curve flattening, the Fed discussing stopping quantitative tightening sooner than anticipated, the Fed not letting its portfolio run off, and trend growth in the U.S.

Regent Makarechian asked whether UC should have more "dry powder" for opportunistic acquisitions in the next several months. Mr. Sterman responded that UC has a great deal of cash and liquid fixed income. Mr. Bachher added that there is logic to holding cash as dry powder. The Office of the CIO can hold up to five percent cash or tactically keep it higher sometimes at seven or eight percent for potential opportunities. There is cash in the Short Term Investment Pool (STIP) as well. Committee Chair Sherman added that, in the 2008 recession, everything went except for cash. UC does not have a big short position, but cash will probably become more valuable. Committee Chair Sherman asked what UC's current duration was across its fixed income portfolio and whether it was moved. Mr. Sterman responded that it had not been moved dramatically. When rates were higher, the Office of the CIO moved duration out a little bit, but, in hindsight, the team should have moved all of it. The team is comfortable being a little bit short because of scenario testing and the belief that rates will go down further.

Regent Makarechian asked whether there was protection against currency fluctuation. Mr. Sterman responded that the fixed income portfolio is U.S. dollar denominated, so UC does not have that risk. Mr. Bachher added that the team does not hedge or trade currency because it does have those skill sets. The exposure of a European private credit manager, on the other hand, is hedged with the euro. Even the benchmark is unhedged, so the team does not add hedges to exposure with current managers.

Edmond Fong, Senior Managing Director of Absolute Return Investments, began his remarks by clarifying some of the misconceptions about Absolute Return. From the Office of the CIO's perspective, Absolute Return is not an asset class but more a subset of strategies that provide a portfolio with flexibility for those already investing in other asset classes. In building a portfolio, one may consider growth, income, and illiquidity. For UC, Absolute Return helps diversify its portfolios, and UC must consider the risks taken in order to generate returns and a low correlation to other markets. The Absolute Return program serves three pools of capital: Pension, Endowment, and Working Capital totaling \$7.5 billion and with 16 partners. Multiple dimensions of performance are considered, such as returns, value added, risk, beta, and diversification. This strategy is designed with UC in mind given its size, scale, six products, flexible governance, and being a single client with longevity. Mr. Fong underscored that there is no hedge fund panacea. Structuring a team and a process to harness returns on the assumption that hedge funds focus on inefficiencies means missing other opportunities. Some hedge funds may be commingled with other funds, others may be evergreen, or still other hedge funds have their own fee structures and governance. Adding strategic opportunities comprises UC's absolute return strategy, taking into account the inefficiencies and aligning itself as it sees fit—in terms of governance, structure, and economics. The Office of the CIO begins with research and considering how success is achieved. Then, the team searches for partners whose strengths can be maximized and weaknesses can be minimized. The team is also committed to providing solutions and not just capital. These include warehouse financing, joint ventures, platforms, and piloting new programs with partners. There is then full alignment from an economic and value standpoint.

Mr. Fong reviewed where the Office of the CIO invests Absolute Return: Pension, Endowment, and Working Capital. There is currently \$4 billion in the Pension, but there is room to grow. The team achieved 5.6 percent value added on a \$6.5 billion portfolio of the Pension and the Endowment combined, which equates to over \$300 million. Absolute Return strategies have been streamlined from ten to four, and Absolute Return managers have been reduced from 33 to 13. The team saved \$35 million in management fees.

Mr. Bachher stated that the Office of the CIO does not count savings in value added. Leveraging UC size and scale, fees are \$500 to \$600 million. Most institutions are not as surgical about fees as the Office of the CIO, and the team receives no incentive on the Retirement Savings Plan. The team's fees are the lowest in the industry and are the only risk-free return.

Regent Makarechian asked how the team evaluates its managers. Mr. Fong responded that the team uses benchmarks and monitors the best performing managers. The Office of the

CIO focuses on its greatest partners by sharing risk with them, and creating new opportunities together is a way to create partnerships. Mr. Bachher added that the best hedge fund managers are performing so well that they are investing their own fees. The Office of the CIO has sought hedge fund opportunities, but it is challenging to replicate these results easily and sustainably.

Regent Cohen asked what a fair measure was to judge the Office of CIO's performance. Mr. Bachher replied that the Board of Regents must judge the Office of the CIO as a team and that the Board's judgment would not drive how the team chooses to invest. Mercer, an independent consultant, currently sets the benchmark, but Mr. Bachher invited the Board to choose a benchmark with which to judge the work of the Office of the CIO. Mr. Bachher stated that it is the general view to use public market benchmarks. For private equity, the team once used a Cambridge Associates benchmark but now uses something much more simplistic.

John Beil, Managing Director of Private Equity, stated that the portfolio has grown to \$5.2 billion in net asset value with more growth expected. The change in asset allocation in July 2017 is expected to double the portfolio in the next three to five years. There is \$1.2 trillion in global private equity dry powder, and purchase price multiples are 11 times the enterprise-value-to-EBITDA, or earnings before interest, taxes, depreciation, and amortization. Managers need to be able to define how they plan to grow assets over time. Growth of overall assets can be alarming, but factors such as asset turnover and a potential secular change in the private markets temper the alarm. Fewer companies are publicly listed, a trend that will stay for the next five years at least. Two years in to revised investment pacing, the Office of the CIO invests \$2.3 billion targeted per fiscal year. The average investment size has grown from \$80 to \$115 million. Cash flows have flipped negative for the first time in seven years, which means more cash is coming out than coming in. The team was prepared for it and, this was broader trend that has affected the industry. UC made its first co-investment in 2009 and has since invested \$1.25 billion, generating 32.2 percent net internal rate of return (IRR) and 1.9 times the return on cash. \$1.3 billion has been delivered in cash back to UC, and \$284 million were saved in management fees. \$204 million in three direct investments have been made in the private equity program, and this has returned \$287 million in cash to UC. Mr. Beil stated that the Office of the CIO will be presenting the portfolio differently to the Board. Growth equity, or late-stage venture capital, was now being presented. In the next three to six years, Private Equity will have a target allocation of ten percent of the Pension and a target allocation of 22.5 percent of the Endowment. The Office of the CIO anticipates that private equity will outperform the public markets but does not expect that this same level of return will continue for the next ten years.

The team takes a multivariable approach to risk in private equity. Considerations include cash flow, liquidity, pacing, fit within the overall profile, mix, industry exposure, and geography. About 83 percent of the portfolio is in the U.S., and the Office of the CIO anticipates that it will continue to be a predominantly U.S. portfolio, but European and Asian exposure will be selectively added. The team practices active monitoring, meaning day-to-day engagement.

Gloria Gil, Senior Managing Director of Real Estate, provided a history of UC's real estate investments. The Office of the CIO saved millions in fees by doing asset management in-house. Currently, the team is focusing on niche investments, such as grocery-anchored retail, senior housing, student housing, medical offices, and life sciences buildings. The Office of the CIO invests 97 percent in the U.S.; of that, 91 percent is invested in the coastal regions. The team has made a strategic bet on the Pacific coastal region, which has outperformed in recent years. Property types in the portfolio are mainly office buildings, apartments, and industrial buildings, and the latter two are durable in case of a correction. The Office of the CIO has added single family housing for the General Endowment Pool (GEP). Cash flows exceed contributions. Mr. Bachher added that, given the recent struggles of the insurance, credit is becoming a new asset class. The entire Office of the CIO team picked eight properties out of 38 and purchased them for \$1 billion with a partner who contributed ten percent. The top performer in UCRP's real estate portfolio was core assets. Ms. Gil reviewed the top performers in various investments and detailed UC's current positioning. UC currently has a 43 percent loan-to-value ratio to mitigate interest rate increases. There is about \$1 billion in a pipeline for recapitalization, refinancing, and sales of assets for the next fiscal year. The Office of the CIO will continue to buy recession-resistant assets, will grow its team with new hires, and plans to have about 20 percent in Asian and European exposures.

Mr. Bachher ended the presentation with an overview of the team's efforts. Despite proudly working at three basis points, it will not be sustainable for the team, which needs to grow. The Office of the CIO is a good investment partner based on the size of its capital.

The meeting adjourned at 5:10 p.m.

Attest:

Secretary and Chief of Staff