ANNUAL REPORT · 2015–16

University of Virginia
Investment Management Company

FROM THE CEO

To the Rector and Visitors of the University of Virginia, foundation trustees, and other members of the University community:

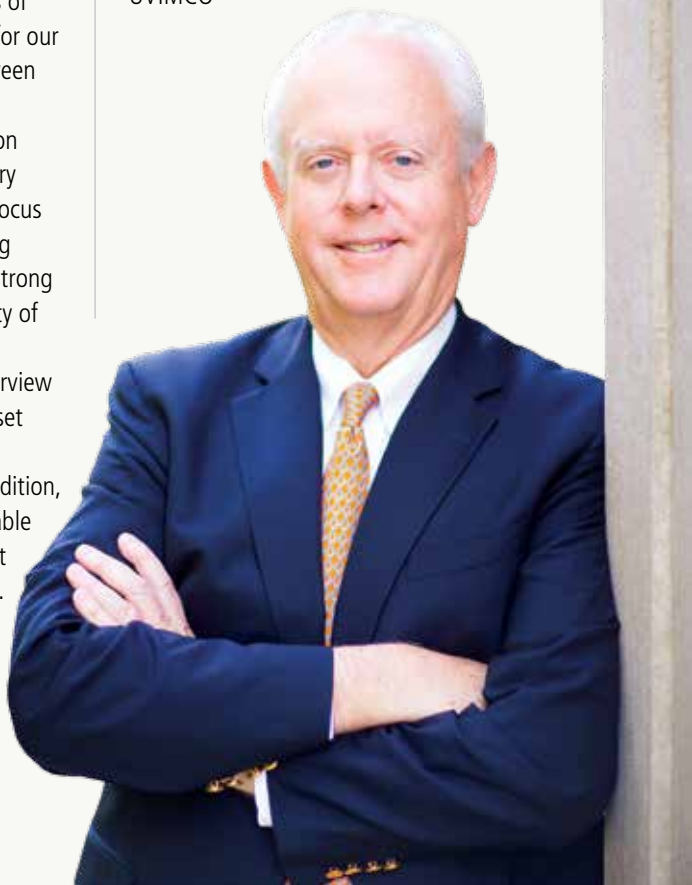
In a year characterized by widespread volatility and increasing market uncertainty, the Long Term Pool fell 1.5% during the twelve months ending June 30, 2016. Global growth concerns, geopolitical events, and unprecedented monetary policies led to record-low interest rates and a 3.2% decline in global equities. The best-performing investments were those that responded favorably to the record drop in short- and long-term interest rates. Global public real estate and bonds gained 16.5% and 6.7%, respectively, for the twelve months ending June 30, 2016. Our underweight to such interest rate–sensitive investments contributed to our underperformance relative to the 1.8% return on our policy portfolio benchmark. The Long Term Pool's best-performing strategies were in private real estate and domestic buyout investments, but losses in our public equity, growth equity, and resources portfolios more than offset those gains.

UVIMCO's long-term performance remains strong. The Long Term Pool returned 8.5%, 8.5%, and 11.3% over the five-, ten-, and twenty-year periods ending June 30, 2016, respectively, exceeding by solid margins our policy portfolio benchmark and the University's spending rate (adjusted for inflation). These long-term returns have allowed the endowment to provide vital and increasing support to the University of Virginia and its related foundations. As of June 30, 2016, the collective value of the long-term University and foundation funds invested with UVIMCO was $7.6 billion.

UVIMCO's long-term investment philosophy and approach remain unchanged. We constantly evaluate our portfolio, focus on managing risk, and seek new investment opportunities. We expect a wide variety of investment challenges going forward and believe macro-level factors will continue to have a significant impact on markets. However, this increasingly macro-oriented market and the relatively short time horizons of many investors create opportunities for our managers to exploit differences between long-term value and current prices. Therefore, by employing a combination of effective asset allocation, exemplary manager selection, and unrelenting focus on the long term, we believe the Long Term Pool will continue to generate strong risk-adjusted returns for the University of Virginia over time.

This annual report provides an overview of UVIMCO's investment strategy, asset allocation, risk management process, performance, and organization. In addition, we are pleased to highlight the valuable work supported by select endowment funds invested in the Long Term Pool. This year, we focus on support for student scholarships and new technologies, both of which are playing a growing role across the University. I hope you find these stories useful in understanding how our investments impact the University of Virginia community. As always, UVIMCO's Board of Directors and staff are grateful for your continued confidence in us. ■

Lawrence E. Kochard
Chief Executive Officer
Chief Investment Officer
UVIMCO



UVIMCO OVERVIEW

UVIMCO provides investment management services to the Rector and Visitors of the University of Virginia. Many of the University's schools and programs have related foundations that help raise funds and attract private investment in the University's undergraduate and graduate programs. UVA and its foundations work together with the associated schools and programs to enhance alumni support and ensure funds are managed prudently and gifts used according to donors' intentions. Together, the University and related foundations determine how best to use unrestricted contributions to provide student aid, enhance teaching and research, build and maintain library collections, and support student organizations and publications.

UVIMCO invests the endowment and other long-term funds held by the University and its related foundations in a Long Term Pool, which is custom managed for the endowment spending requirements and risk profile of the University. UVIMCO also manages a Short Term Pool for University and related foundation funds with near-term liquidity needs. As of June 30, 2016, the shareholder compositions of the Long Term Pool and Short Term Pool are as shown in the graphs on the right.

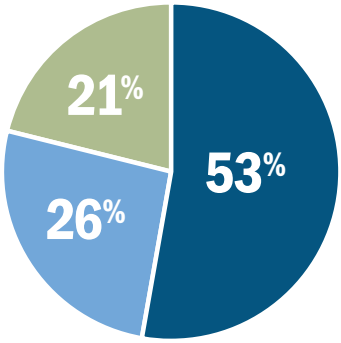
The Purpose of an Endowment

An endowment fund is a permanent, self-sustaining source of funding. Endowment assets are generally invested with a view toward long-term capital appreciation. Each year, a portion of the endowment value is paid out to support the fund's purpose, and any earnings in excess of this distribution help build the fund's market value over time. In this way, an endowment fund grows and provides support for its designated purpose in perpetuity.

The University of Virginia's consolidated endowment ranks among the five largest for public institutions of higher education and among the twenty largest of all colleges and universities in the United States. Equally important, the University's endowment-per-student ratio is one of the largest among U.S. public institutions of higher education.

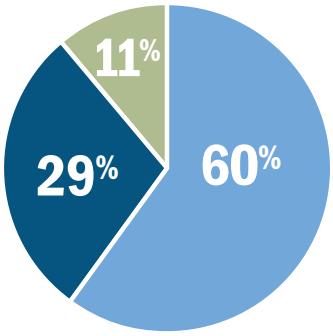
The University of Virginia's strong endowment has been a critical asset in enabling the University to expand its program offerings and facilities, and attract high-quality students and faculty. Invested properly, endowments generate the reliable stream of income essential to funding professorships, scholarships, fellowships, lectureships, book funds, and many other purposes.

The University of Virginia's endowment strength also provides the financial support and flexibility necessary when other revenue sources change. Historically, the University relied heavily on appropriations from the Commonwealth of Virginia. However, macroeconomic changes and constrained state budgets in recent years have resulted in less revenue available



Long Term Pool [$7.6 billion]

- University of Virginia Endowment
- University-Related Foundations
- University Strategic Investment Fund



Short Term Pool [$382 million]

- Long Term Pool Cash
- University-Related Foundations
- University Strategic Investment Fund

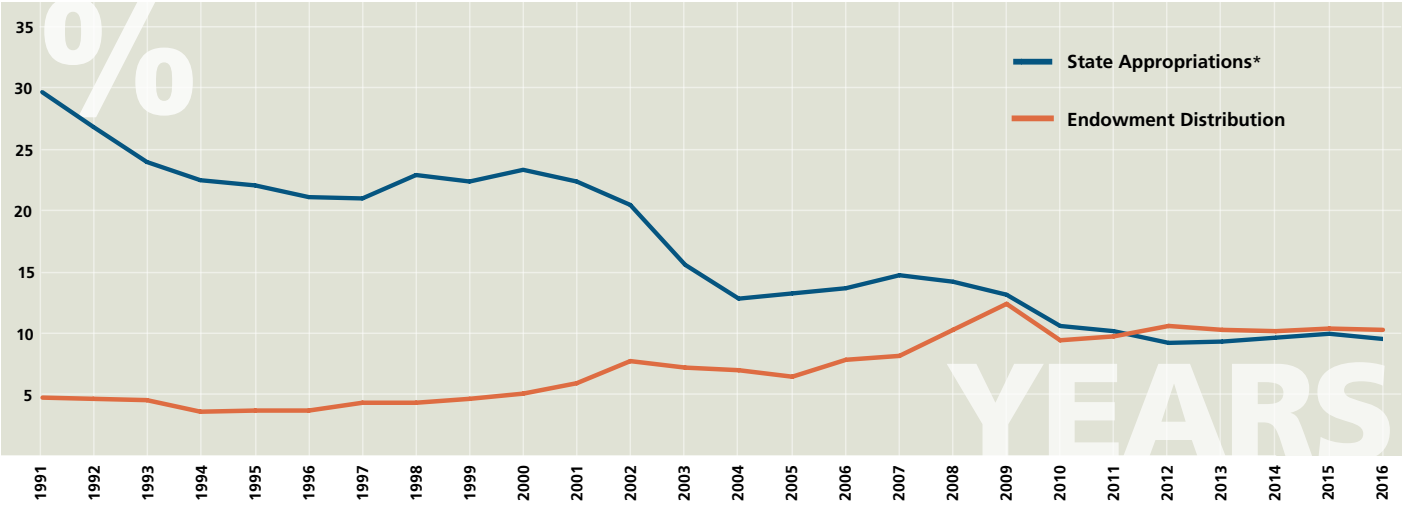
TABLE 1: Long Term Pool at a Glance

Fiscal Year Ending June 30	2012	2013	2014	2015	2016
OVERVIEW					
Market Value (in millions)	$5,430.0	$5,959.5	$6,949.5	$7,528.3	$7,619.4
Net Asset Value per Share	$6,025	$6,833	$8,131	$8,760	$8,625
Return*	**5.1%**	**13.4%**	**19.0%**	**7.7%**	**(1.5)%**
STRATEGIC ALLOCATION					
Public Equity	20.5%	24.4%	22.0%	22.5%	24.6%
Long/Short Equity	22.7	23.6	23.2	23.8	21.7
Private Equity	19.6	18.1	19.9	18.8	17.1
Real Estate	8.6	8.6	7.6	6.6	6.6
Resources	7.0	5.5	4.9	3.7	4.5
Marketable Alternatives & Credit	9.3	10.0	10.9	9.9	14.0
Fixed Income & Cash	12.3	9.8	11.5	14.7	11.5

*Returns are presented gross of UVIMCO management and incentive fees.

GRAPH 1: Historical State Appropriations and Endowment Distribution

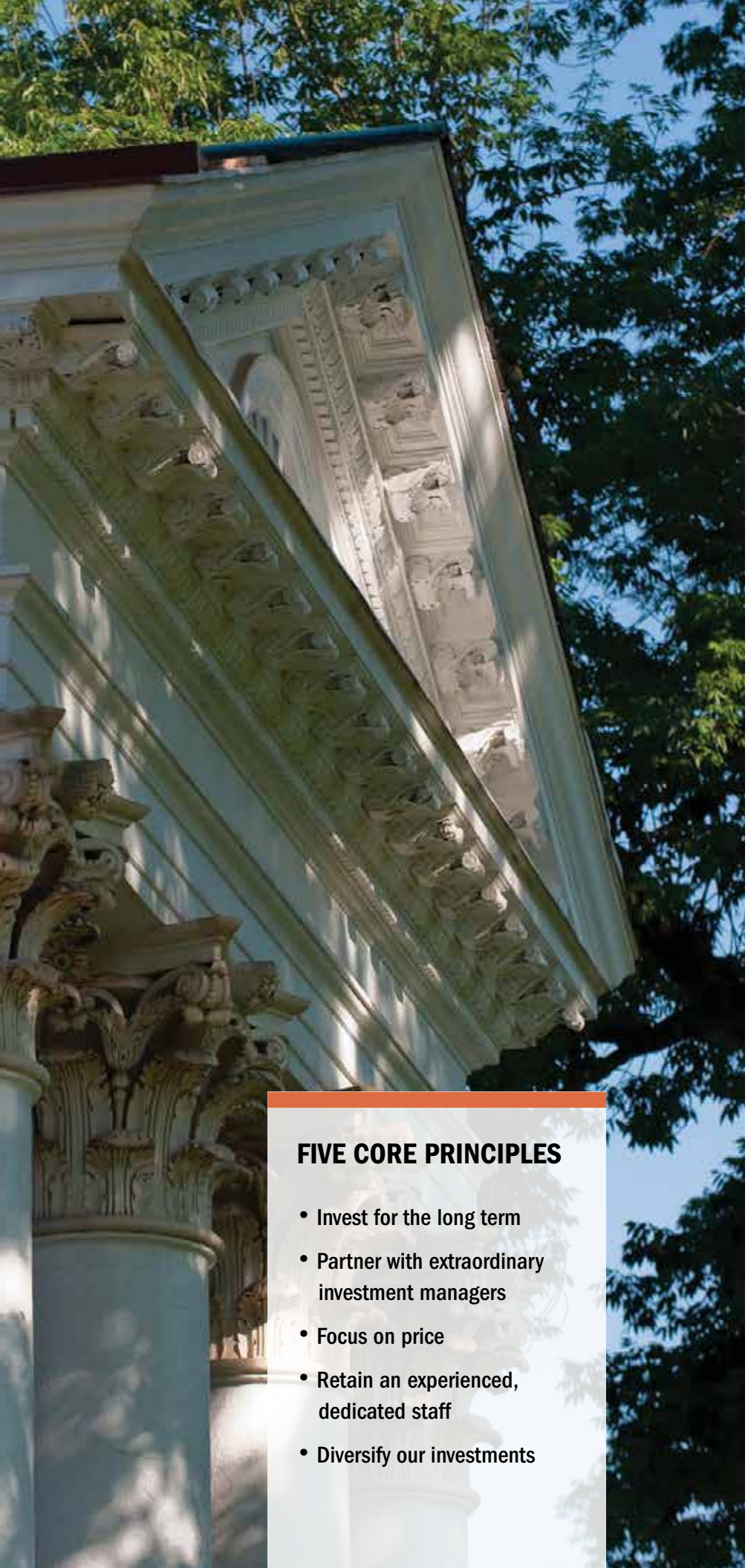
As a percentage of the academic division operating budget for the fiscal years ending June 30



* State appropriations represent unrestricted state general funds appropriated for basic educational needs and exclude restricted state general funds to be used for research and financial aid.

for public education—in Virginia and many other states. Steadily declining state support means the University must increasingly rely on past and continued donor generosity to sustain its margin of excellence. Annual contributions help cover the University's yearly operating expenses, whereas new gifts to the endowment, along with the endowment's long-term investment performance, help secure the University's long-term financial stability. As Graph 1 illustrates, endowment spending has surpassed state appropriations as a funding source for the University's academic budget for the past five fiscal years.

UVIMCO's primary investment objective is to maximize the long-term, inflation-adjusted return of the Long Term Pool within the risk tolerance of the University. UVIMCO achieves this objective by actively managing the Long Term Pool in a manner carefully designed to provide a substantial and growing stream of income to support the University and its related foundations while preserving for future generations the purchasing power of their long-term investment assets. Over the past decade, UVIMCO's active management of the Long Term Pool added $1.8 billion to the University's endowment beyond the amount that would have been earned by investing in a passive benchmark portfolio. The University and related foundations have been served well for many years by UVIMCO's long-term perspective, relentless pursuit of excellence, and partnerships with exceptionally talented external investment managers. ■



FIVE CORE PRINCIPLES

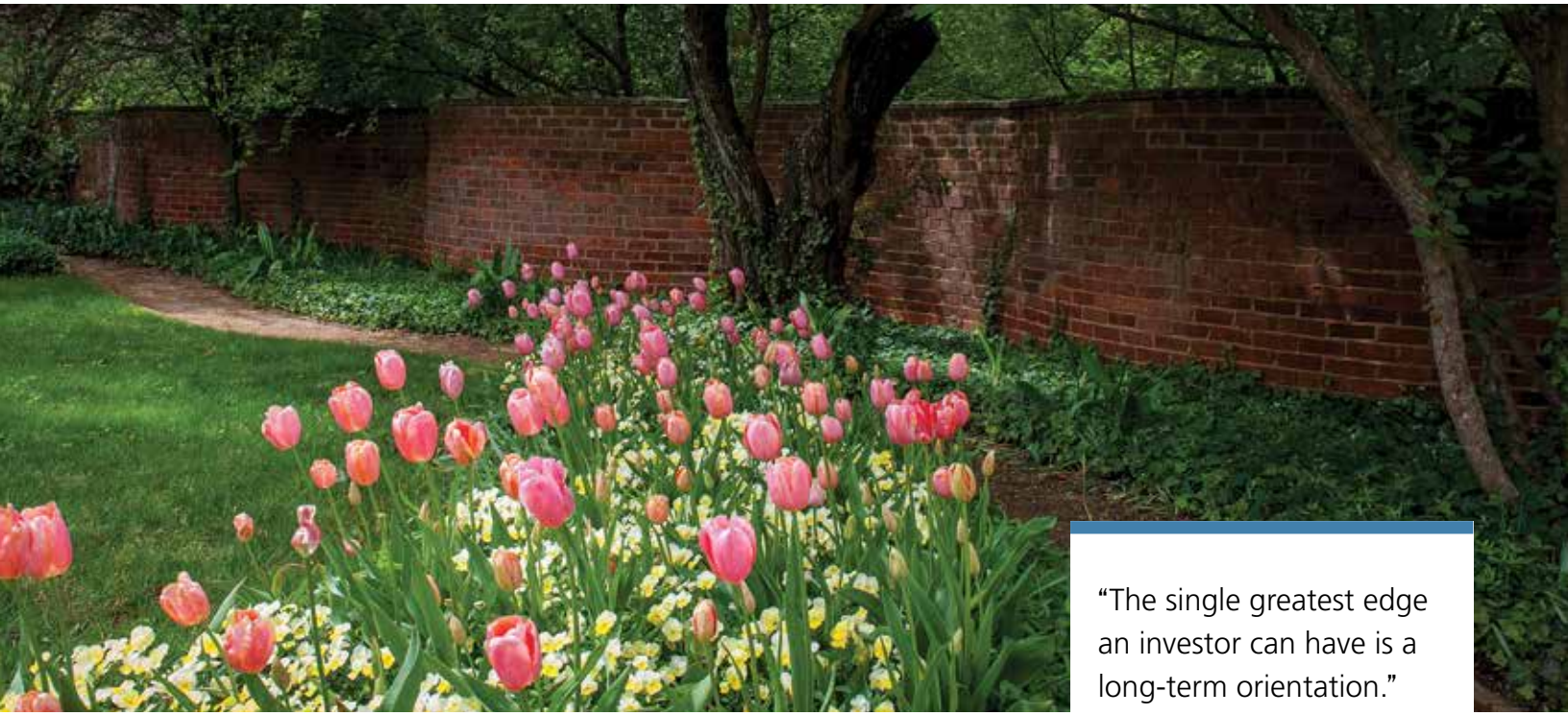
- Invest for the long term
- Partner with extraordinary investment managers
- Focus on price
- Retain an experienced, dedicated staff
- Diversify our investments

INVESTMENT STRATEGY

At UVIMCO, we believe that attractive long-term investment returns are best produced by maintaining a consistent and effective investment philosophy and process over time. UVIMCO achieves this goal by adhering to several core principles. These principles guide everything we do at UVIMCO as we invest the Long Term Pool.

First, we are long-term investors. Our relatively long time horizon allows us to capitalize on market inefficiencies and risk premiums that arise from other investors' focus on short-term news and market events. In addition, our ability to avoid imprudent reactions to short-term dislocations gives us the potential to outperform investors who are unable to take a similarly long-term view. Although our portfolio may outperform expectations in the short term, this is not our goal. Rather, we seek to outperform our benchmarks over the long term, which means we are willing to underperform passive benchmarks and peer investors in the short term.

Second, we seek exemplary long-term returns through our external investment manager selections, asset allocation decisions, and portfolio tilts that take advantage of economic themes. Securities are selected for UVIMCO by a team of extraordinary external managers. Whereas the vast majority of money managers fail to beat passive benchmarks, UVIMCO's disciplined research process and pattern recognition allow us to develop relationships with outstanding investment managers who demonstrate an edge in



> "The single greatest edge an investor can have is a long-term orientation."
>
> **SETH KLARMAN**, FOUNDER OF THE BAUPOST GROUP

both security selection and asset allocation. The reputation we have cultivated as a value-added partner, our extensive network of market contacts, and the patient capital we provide have allowed us to build relationships with the most successful managers—many of whom do not accept capital from new investors.

Third, we believe price matters. Behavioral biases of other investors with different investment time horizons can cause investment prices to differ from their fundamental values for long periods. Markets tend to overreact to recent events and operate under the assumption that recent good or bad news will continue. At UVIMCO, we believe in long-term reversion to fundamental values. Superior long-term returns depend on investing in securities, themes, and asset classes with current prices below their fundamental values. Mispricings and other special situations at the security level create opportunities for our external investment managers, whereas thematic and asset-class inefficiencies may be exploited by external investment managers and our internal investment team through portfolio tilts and hedges. We also seek investments that have fallen out of favor, resulting in a supply/demand mismatch of capital. We recognize that prices can differ from their fundamental values for extended periods, so we must remain patient for this approach to yield results.

Fourth, we believe our success is largely dictated by the quality of people on the UVIMCO team and the long-term partnerships we maintain with external investment managers. We ask all staff members to demonstrate a strong work ethic, a passion for investing, effective teamwork skills, and a desire to put the University's interests above personal interests. We expect our external investment managers to uphold similar standards, and we believe that hiring talented, high-integrity managers is one of the most important ways to control portfolio risk.

Finally, we believe in the benefits of diversification. We expect the quality of our research and investment selection to lead to good results over time, but we understand certain decisions will be unsuccessful. Therefore, we diversify our investments across asset classes, themes, and managers. We meticulously and continuously review and test each of these allocations, rebalancing the portfolio when necessary. We pursue strategies and investments in our areas of expertise, and we decline opportunities outside our realm of expertise. This approach requires humility in our investment team. We also seek humility in our investment managers and appreciate those who are confident but not overconfident, employ investment processes in which we have shared conviction, and consider the downside risk of every investment. ■

Q & A with UVIMCO CEO/CIO
Larry Kochard

This is the first time in several years that UVIMCO has underperformed its policy benchmark. How do you feel about performance?

Any year in which our investment returns do not meet UVA's spending requirements is by definition a subpar year. However, as a long-term investor, we avoid overreacting to short-term outcomes and instead remain focused on what we can control: our investment strategy and process. Our investment process does not produce positive results over every short-term time period, but we believe it will continue to serve us well in the long-term future just as it has over the past five, ten, and twenty years.

What is the most important element of UVIMCO's investment strategy?

A key to UVIMCO's strategy is cultivating long-term relationships with some of the world's best investment managers. Our staff is assisted in this effort by our Board of Directors and UVA's extensive alumni base. UVIMCO's team also brings a tremendous amount of experience and passion to the table. Thanks to a number of recent outstanding hires, including a few of my former students, the organization is well positioned for many years to come.

What short-term market factors contributed to this year's performance?

The primary driver of investment returns over the past year was the declines in global bond yields from extremely low levels to record lows. Therefore, the best-performing investments were those that respond favorably to lower interest rates, namely bonds and bond-like stocks. Our underweight to such interest rate–sensitive investments drove the Long Term Pool's underperformance relative to the policy portfolio. Similarly, detractors from absolute returns included resource, growth equity, and emerging market investments. Notably, such investments have added significant value to the Long Term Pool in prior years.

UVIMCO's overall performance remains excellent, and we continue to have conviction in our investment process. More information about our investment returns is available in the Investment Performance section of this annual report.

What mistakes are investors prone to make after a subpar year?

A common mistake made by investors is to "chase performance," concluding that yesterday's winners and losers will continue to perform the same way in the future. This mistake occurs at the security, strategy, and asset class levels, and is symptomatic of broken processes that ultimately lead investors to buy high and sell low. For example, a broken process would prompt UVIMCO to increase

our allocations to last year's top performers, namely bonds and bond-like stocks. We are not going to make that mistake. Rather, we are maintaining our discipline of rebalancing, adding capital to what has underperformed and harvesting capital from our winners.

What areas of opportunity do you see?

Valuations are relatively high in many asset classes, but we are finding pockets of opportunity in areas such as non-U.S. equities. We also continue to observe an investment community fixated on global macro risks—including a slowing Chinese economy, the implications of Brexit, the U.S. presidential election, and central bank policies—which provides a good environment in which our global public managers can identify mispriced securities. Capitalizing on these opportunities isn't always profitable over short time frames, so maintaining a long-term focus is crucial. Finally, we remain firm in our belief that skilled private managers have the ability to add value and drive exemplary returns through hands-on management and operational and/or balance sheet improvement of portfolio companies.

Tell us more about the technology theme in this year's annual report.

Advances in technology have had a significant impact on every industry, including both academia and investment management. In this report, we are excited to profile several ways in which UVA is harnessing and spurring new technology and innovation, activities that benefit substantially from endowment funding. Meanwhile, UVIMCO invests with managers who help build and grow leading technology companies. We are also constantly exploring new ways to use technology to improve UVIMCO's investment process. ■

INVESTMENT POLICY

An investment policy is a financial blueprint designed to reflect an institution's return objectives and risk tolerance. Such a policy should balance an institution's ability to tolerate a decline in assets available for spending within a given time frame with its desire for returns and more available assets in the future. UVIMCO's Board of Directors establishes the investment policy for the Long Term Pool and monitors the development, analysis, adoption, and execution of investment decisions by the UVIMCO staff. The Board reviews the investment policy annually.

In addition to serving as a financial blueprint, the investment policy sets forth the applicable standard of care, delineates the responsibilities of the Board and staff, and establishes various parameters for risk management, including portfolio diversification and liquidity. The investment policy also includes a policy portfolio allocation, which the Board establishes based on the University's risk tolerance and expected future capital requirements. The Board carefully considers capital market risk and return estimates to ensure the policy portfolio is appropriately designed to achieve the investment objectives for the Long Term Pool. UVIMCO's long-term investment policy portfolio allocation and related performance benchmarks are shown in Table 2.

Equity investments provide an opportunity to participate in the growth of public and private companies. In a growing global economy with low inflation, these

TABLE 2: Policy Portfolio

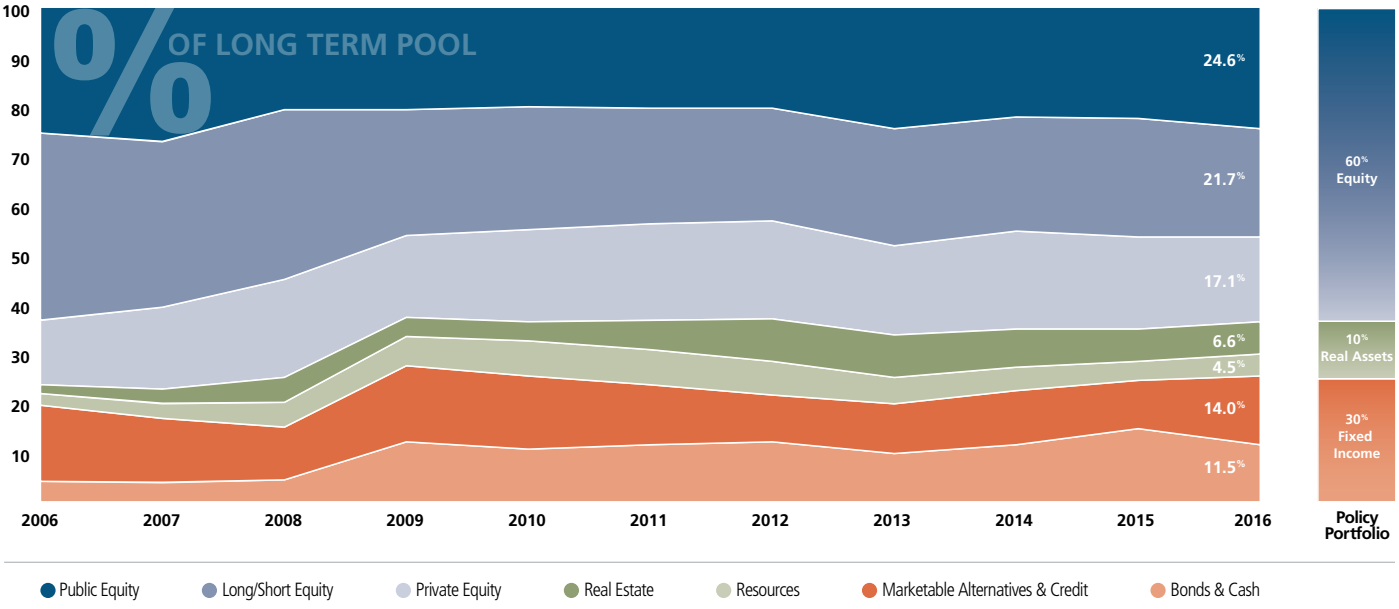
Broad Asset Class	Allocation	Benchmark
Equity	60%	MSCI All Country World Equity
Real Assets	10%	50% MSCI U.S. Real Estate 50% MSCI All Country World Real Estate
Fixed Income	30%	50% Barclays U.S. Aggregate Bond 50% Barclays Global Aggregate Bond (Hedged)
Total	**100%**	**Policy Portfolio**

investments historically have provided the highest long-term return opportunities. Real assets provide protection in an inflationary environment, and thus tend to benefit a diversified portfolio during periods of a depreciating dollar and/or rising prices or interest rates. Fixed income and marketable alternative investments provide protection in deflationary or weak economic environments.

Since the strategic policy portfolio is established to reflect the risk tolerance and long-term needs of the University, revisions to the policy portfolio are infrequent and gradual, generally occurring only when the University's risk tolerance changes. However, because market prices and portfolio valuations are dynamic, and our "bottom-up" investment opportunity set is always changing, the actual investment allocation of the Long Term Pool will differ from the policy portfolio allocation at any given point in time. The actual asset allocation and exposures of the Long Term Pool are constantly monitored to ensure that the Long Term Pool's level of market risk is consistent with that of the policy portfolio. The Long Term Pool's actual allocation as of June 30, 2016, was 63.4% to equity managers; 11.1% to real asset managers; and 25.5% to fixed income, marketable alternatives, and cash managers. Looking through to our managers' underlying investments, the Long Term Pool had allocations of 50.1% to equities, 13.7% to real assets, and 36.2% to fixed income (including marketable alternatives, credit, bonds, and cash).

The Long Term Pool's asset allocation has been relatively stable for several years. Graph 2 displays the trends in the asset allocation of the Long Term Pool over the past decade. ■

GRAPH 2: Historical Asset Allocation
Fiscal years ending June 30



ENDOWMENT AT WORK

Innovation and technology initiatives are a priority at UVA. UVIMCO is pleased to highlight several ways in which endowment funds invested in the Long Term Pool are supporting these types of initiatives. The first is a program being piloted by the Curry School of Education in which a computer-based classroom simulator helps boost the proficiency of teachers-in-training. This platform puts the Curry School at the forefront of a new frontier in teacher training and support, and positions the School to endow a national center for classroom simulation excellence. On a more personal level, we are pleased to highlight Ngozi Ofoche, who is enrolled in the JD/MBA dual-degree program at UVA. A recipient of the Class of 1975 Marianne Quattrocchi Memorial Scholarship at the Darden School of Business, Ms. Ofoche plans to pursue her interests in technology law and policy by working with startups in the social enterprise space. The third highlight is the UVA i.Lab, which provides resources and programs to expand the community's capacity to innovate, activate new entrepreneurs, and accelerate new ventures.

Investing in Simulation Technology for Teacher Training

It's every new teacher's greatest fear: standing in front of a classroom of energetic youngsters whose behavior is spiraling out of control.

The ability to capably manage a classroom and keep students' attention is a required skill for every successful educator, but one that takes practice to master. In 2016, UVA's Curry School of Education began a pilot program designed to boost the proficiency of elementary school teachers-in-training in a low-stakes setting, before ever stepping in front of a real classroom.

Using a computer-based simulator, a student teacher faces a large video monitor and teaches to a virtual classroom of five avatars. The avatars, which are controlled by an offsite actor using scripts provided by Curry School instructors, are simulated youngsters who "converse" with the student teachers and react with common behavior challenges. The student teachers must apply strategies learned in their Curry courses to redirect distracting behavior and reengage pupils in the lesson—or else face an increasingly belligerent class.

A real-life faculty supervisor is present to give the student teachers immediate feedback. In addition, the teachers-in-training can be allowed to try again if they faltered on the first go—an opportunity a real classroom can never offer.

Curry School Professor and Associate Dean Catherine Bradshaw, who researches teacher education, is evaluating the effectiveness

of the simulator before it is scaled up to additional settings, such as upper grades, parent-teacher conferences, or teacher coaching sessions. Support for her research was provided by the Hearst Endowment for Teachers for a New Era Program, a fund dedicated to the scholarly research of Curry's teacher preparation programs.

Through these simulation sessions, Professor Bradshaw is exploring another area of import in education: the physiological toll of teaching. "Teaching is stressful for novice teachers and a heavy cognitive load, as we are asking them to multitask many things—instruction, engagement, management, monitoring, differentiation, self-monitoring, and more," Bradshaw said.

Bridget Hamre, a professor of education at Curry and director of numerous innovative projects in teacher preparation at the state and federal levels, added that, with this new technology, the Curry School is entering a new frontier in how it trains and supports teachers. "Although we are just beginning this work on simulation, we are really excited about the possibilities," she said. "Curry is well positioned to develop models that can be used by teacher preparation programs and districts across the country."

With the simulator currently in the proof-of-concept stage, the Curry School is seeking endowment support for developing a more advanced simulator that incorporates artificial intelligence. Once the right technology is available, the School will be positioned to establish an endowment-funded national center for teaching simulation.

Expanding Scholarship Funding at Darden

Ngozi Ofoche, a JD/MBA dual-degree student and member of the Class of 2017, provides a great example of the impact scholarships can make at the University of Virginia's Darden School of Business.

A first-generation Nigerian American born and raised in Baltimore, Ms. Ofoche graduated from Cornell University in 2010 with a bachelor's degree in government and international relations. After working for two law firms in Washington, D.C., she knew she wanted to attend law school, but her growing interest in technology law and policy led her to pursue an MBA alongside her JD. As an outstanding applicant with strong experience, she was awarded the Class of 1975 Marianne Quattrocchi Memorial Scholarship to attend Darden—a scholarship created in memory of a former Darden student and intended to attract top female candidates to the School.

The Darden School seeks to develop and inspire responsible leaders of the future like Ms. Ofoche. As such, the School strives

to recruit the best students with strong character and diverse perspectives. However, given the high cost of an MBA education—Darden costs more than $90,000 per year (on par with other top-tier business schools)—talented candidates often select the school that offers them the most generous financial aid package. Only one-third of students currently receive scholarship support at Darden, compared to half or more at peer schools. That's why Darden Dean Scott Beardsley has announced a goal of increasing scholarship funding by $10 million annually. In reaching this ambitious level, the School will ensure the Darden experience is within reach for the most qualified students.

Thanks to scholarship support to attend Darden, Ms. Ofoche has been able to take advantage of three global academic offerings at the School to prepare her for her future: the Brazil Global Business Experience, the Israel Global Business Experience, and a Global Consulting Project working with a client in Kenya. After completing her JD/MBA next spring, Ms. Ofoche eventually looks forward to doing consulting work in Nigeria. She is particularly interested in working with technology startups in the social enterprise space. The University and the Darden School are thrilled to support students like Ngozi, whose experience in and passion for the technology sector

will have a positive impact on business and society around the globe.

"Receiving a scholarship to attend Darden has given me the confidence to pursue my interests and passions," Ms. Ofoche reflected. "I was humbled and honored to be selected for this award, especially knowing that the donors to my scholarship gave in memory of their classmate, Marianne, who passed away. I feel so grateful to have the privilege of honoring her memory by carrying the scholarship in her name."

Darden believes that, with the help of its generous donors, the School will continue to attract outstanding leaders like Ms. Ofoche and to positively shape the lives of these up-and-coming business leaders.

Fostering a Vibrant Entrepreneurial Ecosystem

A growing University-wide initiative that benefits from the funds invested by UVIMCO is the W. L. Lyons Brown III Innovation Lab (UVA i.Lab). The UVA i.Lab provides resources and programs to expand the community's capacity to innovate, activate new entrepreneurs, and accelerate new ventures—both within and beyond the UVA i.Lab's 9,600-square-foot core facility. The UVA i.Lab, with financial and administrative support from the Batten Institute for Entrepreneurship and Innovation at the Darden School of Business, is a collaborative effort among the provost's office, the UVA Licensing and Ventures Group, and all of the University's schools "to foster deep cross-collaboration with no boundaries, across disciplines, schools, or ways of thinking."

A central feature of the UVA i.Lab is its highly competitive startup accelerator program, followed by a nine-month incubator residency. Since 2013, the UVA i.Lab has fostered nearly ninety ventures, spanning a range of industries (e.g., health care, data science, fashion, agriculture, energy, and finance), resulting in both follow-on investments and social benefits. Crucial to the impact of this program has been and will continue to be an increasing capacity to provide startup funding, legal and financial counsel, day-to-day tools and resources, and an expansive network of advisors and industry experts.

The UVA i.Lab is one of many elements of the University of Virginia's growing entrepreneurial ecosystem. Other areas of the University provide substantial support for courses, competitions, physical space, and cocurricular programs related to entrepreneurship. Initiatives include the Galant Center for Entrepreneurship at the McIntire School of Commerce, the Social Entrepreneurship at UVA (SE@UVA) program managed by the Frank Batten School of Leadership and Public Policy, the Technology Entrepreneurship program managed by the School of Engineering and Applied Science, the Curry School of Education's youth and social innovation major, the School of Architecture's design thinking concentration, and various efforts within the College and Graduate School of Arts & Sciences. These schools recently collaborated to offer a pan-University entrepreneurship minor, as called for in UVA's Cornerstone Plan. Since its launch in fall 2015, student demand for the new minor already has increased the need for new faculty, student scholarships, and other program support.

The collaborative efforts and successes in this vibrant entrepreneurial ecosystem continue ensuring that the University—located in America's No. 4 city for entrepreneurship according to *Entrepreneur* magazine—will attract the highest-quality students and faculty and expand its program offerings and facilities. ■

RISK MANAGEMENT

Investors may be willing to bear risk only if they are adequately compensated with higher returns in the future. At UVIMCO, we are willing to assume certain risks but will eliminate other risks if we are unable to absorb associated downside losses or do not earn a sufficient premium for assuming those risks. UVIMCO uses quantitative and qualitative risk-management tools and analyses to assess and manage the risks in the Long Term Pool. We measure and control for three primary risks: market risk, manager risk, and liquidity risk.

Market Risk

Market risk is measured by the volatility of returns or maximum potential drawdown in a portfolio. Although UVIMCO actively monitors a variety of market risks—including inflationary, interest rate, and credit risks—we believe equity market risk represents the most meaningful market risk factor for the Long Term Pool. UVIMCO manages market risk in the Long Term Pool by diversifying across three broad asset classes: equity, fixed income, and real assets. We continually review our actual allocations to these asset classes and rebalance the portfolio when necessary. If needed, we also employ certain hedging strategies to maintain estimated market risk in the Long Term Pool that is consistent with the estimated market risk of the policy portfolio.

Because the policy portfolio is designed to reflect the University's risk tolerance, the actual asset allocation and exposures of the Long Term Pool are constantly monitored to ensure their market risk level is comparable to that of the policy portfolio. As of June 30, 2016, the Long Term Pool's market risk was consistent with that of the policy portfolio.

Manager Risk

The Long Term Pool invests with more than 130 external managers. UVIMCO seeks to maintain a portfolio of managers that generates sufficient returns to

compensate for bearing the market risks of the asset classes as well as the additional risk inherent in working with individual managers. Manager risk includes the risk that the specific investments selected by the manager will underperform the relevant benchmark, operational or business risks within the manager's organization, lack of transparency, and leverage. UVIMCO mitigates manager risk by diversification and the employment of extensive due diligence to assess both the investment and operational aspects of our external fund managers. In addition, our investment policy ensures diversification by limiting our exposure to any single manager.

Over time, UVIMCO has been well compensated for assuming a certain level of manager risk. Attribution analyses suggest that manager selection is the largest contributor to the Long Term Pool's outperformance of policy benchmarks and peers.

Liquidity Risk

UVIMCO defines liquidity risk for the Long Term Pool as an inability to meet any of the following four primary liquidity requirements: (1) investor withdrawals, (2) the excess of capital calls over expected capital distributions from private funds, (3) the need to rebalance the portfolio's investment allocation following a market decline, and (4) the ability to deploy cash opportunistically as attractive new investment prospects arise. We manage liquidity risk in the Long Term Pool by maintaining a portfolio of U.S. Treasury bills and notes, retaining sufficient liquidity with our public equity and hedge fund managers, and carefully monitoring the pace of our commitments to private investments. We invest approximately 8% to 12% of the Long Term Pool in safe and highly liquid assets, and ensure at least 30% of the Long Term Pool is available for conversion to cash in any twelve-month period.

> "Investing should be more like watching paint dry or watching grass grow. If you want excitement, take $800 and go to Las Vegas."
>
> **PAUL SAMUELSON**, ECONOMIST AND WINNER OF THE NOBEL MEMORIAL PRIZE IN ECONOMIC SCIENCES

Actual liquidity is a function of the size and nature of our private portfolio, the total of Long Term Pool funds invested in bonds or cash, and the liquidity terms of our public investments. As of June 30, 2016, approximately 12% of the Long Term Pool's assets were invested in highly liquid, government-issued debt securities and cash. Although this level of liquidity is at the high end of our preferred range, we are comfortable with this level because we have a robust pipeline of attractive investment opportunities. In addition, as of June 30, 2016, we were able to access more than 26% of the Long Term Pool's investments within three months and about 43% within a year. This current liquidity level exceeds the Pool's minimum requirements. ■

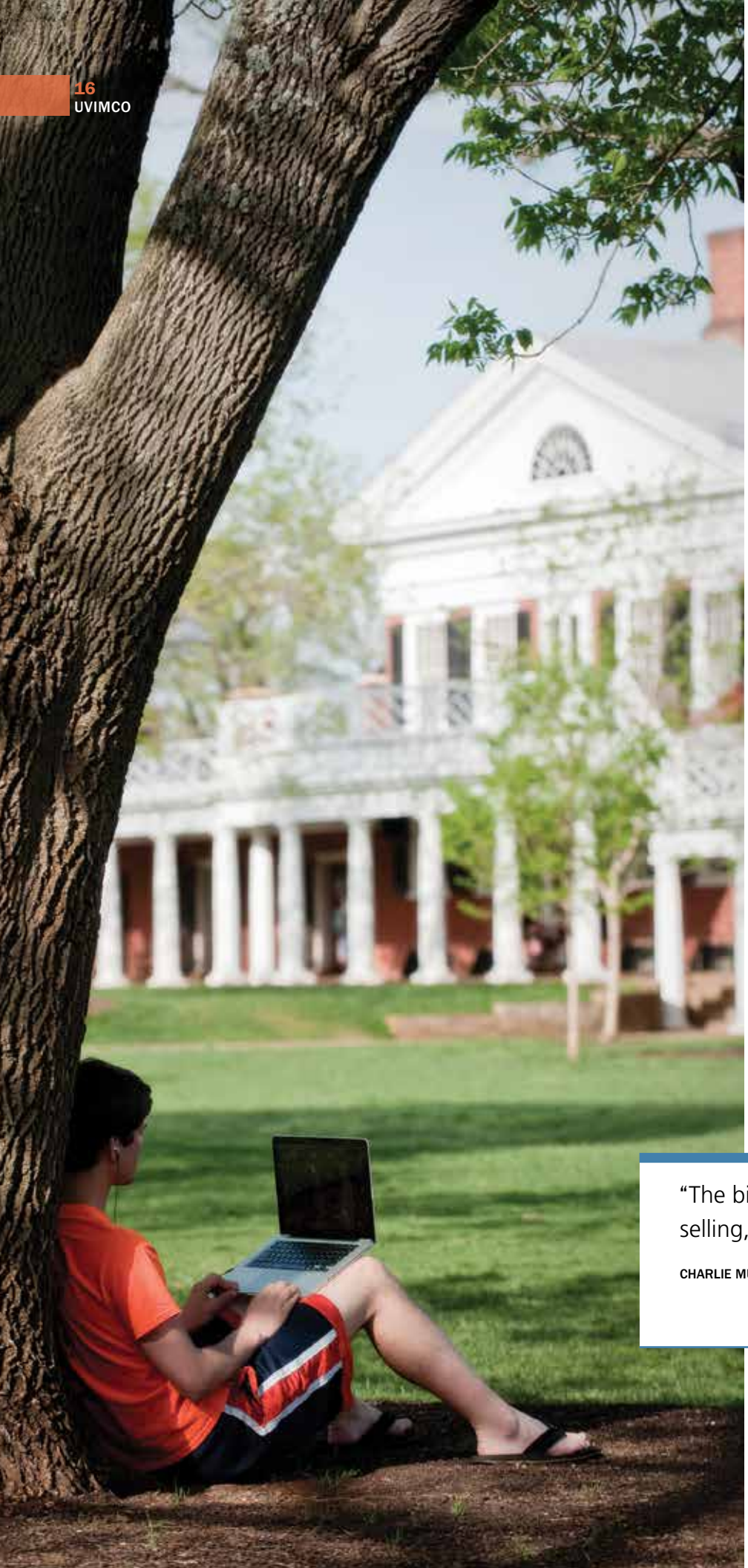
INVESTMENT PERFORMANCE

We assess the performance of the Long Term Pool in several ways. Our primary objective is to generate inflation-adjusted, long-term returns in excess of the University's spending rate, thereby achieving our goal of generating a steady source of income to support UVA's mission. We also seek to outperform the long-term returns of our passive policy portfolio benchmark. Lastly, we compare our performance to the broad universe of other institutional investors. Although we do not focus unduly on the investment activities and results of peer organizations, we recognize that relative performance is important to our shareholders.

The Long Term Pool, as noted previously in this report, has a passive policy portfolio benchmark comprised of public market indices: 60% equity, 10% real assets, and 30% fixed income. During fiscal year 2016, global growth concerns, geopolitical events, and unprecedented monetary policies led to record-low interest rates and falling global equity prices. Global equity markets lost 3.2% during the year, while investments that respond favorably to low interest rates rose in value. Portfolios with tilts toward perceived safe-haven investments, such as U.S. equities, large-cap stocks, utilities, consumer staples, real estate, and bonds, did well relative to other investments. Global public real estate and bonds gained 16.5% and 6.7%, respectively, driving our policy portfolio benchmark's overall return of 1.8% for the fiscal year.

As discussed earlier in this report, UVIMCO actively manages the Long Term Pool, primarily by employing external investment managers, to pursue long-term returns exceeding the policy benchmark while maintaining a comparable level of risk. The Long Term Pool's return of –1.5% for the year ending June 30, 2016, underperformed the policy portfolio benchmark return by 330 basis points. Our underweight to interest rate–sensitive investments, including public real estate and bonds, was the primary driver of the Long Term Pool's one-year underperformance relative to the policy portfolio.

Our goal is not to outperform the passive benchmark over one-year or other short-term periods. Rather, as an endowment manager, we seek to outperform the passive benchmark in the long term. Over the ten- and twenty-year time periods ending June 30, 2016, UVIMCO's portfolio compounded at an annualized rate of 8.5% and 11.3%, respectively. This performance meaningfully exceeds both the University's spending rate (plus inflation) and the ten-year and twenty-year annualized returns available through ownership of the passive policy portfolio—5.4% and 6.5%, respectively.



To illustrate, $1.00 invested twenty years ago in the Long Term Pool would have been worth $8.45 on June 30, 2016, whereas $1.00 invested twenty years ago in the passive policy portfolio would have been worth $3.54. This long-term outperformance has allowed the endowment to provide a steady and growing level of support to the University and its related foundations.

In addition to evaluating the Long Term Pool's performance relative to the market and our policy portfolio, we consider our performance relative to the TUCS All Master Trust Universe, a broadly accepted benchmark for the performance of institutional assets, including corporate and public pensions, endowments, and

> "The big money is not in the buying and selling, but in the waiting."
>
> **CHARLIE MUNGER**, VICE CHAIRMAN OF BERKSHIRE HATHAWAY

TABLE 3: UVIMCO Long Term Pool Relative Performance
In percentages, annualized through June 30, 2016

	1 YEAR	3 YEAR	5 YEAR	10 YEAR	20 YEAR
UVIMCO Long Term Pool	(1.5)	8.1	8.5	8.5	11.3
TUCS All Master Trust Universe Top Quartile	2.4	7.3	7.3	6.2	7.8
TUCS All Master Trust Universe Median	0.9	6.2	6.3	5.7	7.2

foundations. As shown in Table 3, the Long Term Pool's return for the 2016 fiscal year underperformed that of other institutional investors. However, the Long Term Pool's returns comfortably exceeded the top quartile of other institutional investors' returns over all time frames ranging from three to twenty years.

Table 4 (on page 18) summarizes the performance of the Long Term Pool and its component strategies over time. As the table shows, different investment strategies make positive contributions to the Long Term Pool's performance over time. During the 2016 fiscal year, UVIMCO's public equity, long/short equity, and private equity portfolios generated negative returns, reflecting the losses experienced by global equity markets. Although our real estate portfolio generated an attractive absolute return of 9.4%, the portfolio underperformed the weighted policy benchmark of publicly traded U.S. and international real estate securities, which returned 16.5%. Commodity prices continued to tumble, pushing our resources portfolio down 8.6% for the fiscal year. However, our resources portfolio outperformed the S&P GSCI, which fell 26.1%. Marketable alternatives and credit (MAC) rose a modest 1.9% as low rates continued to bolster credit markets. Our government bond and cash portfolios provide critical liquidity and risk control for the Long Term Pool, returning 1.2% and 0.1%, respectively.

UVIMCO's equity portfolio, which includes public equity, long/short equity, and private equity, represented 63.4% of the Long Term Pool as of June 30, 2016. Although performance was lackluster this fiscal year, we have performed well over the long term. Primarily due to exceptional security selection on the public side and value-generating capabilities on the private side, our composite equity portfolio has returned 13.4% per year over the past two decades, while the MSCI All Country World Index (ACWI) has returned 6.1% per year in the same period. Private equity has added most significantly to the Pool's outperformance, as the twenty-year annualized return of 18.2% outperformed the return of the MSCI ACWI by 12.1% per year.

Our real assets portfolio, which consists of real estate and resources, represented 11.1% of the Long Term Pool as of June 30, 2016. This portfolio is intended to provide valuable diversification and inflation protection, and our real estate and resources returns may vary widely from each other and from year to year. Over the past two decades, our real assets portfolio has contributed significantly to the Long Term Pool's outperformance, with a twenty-year annualized return of 10.9%—outperforming the benchmark return by 3.0% per year.

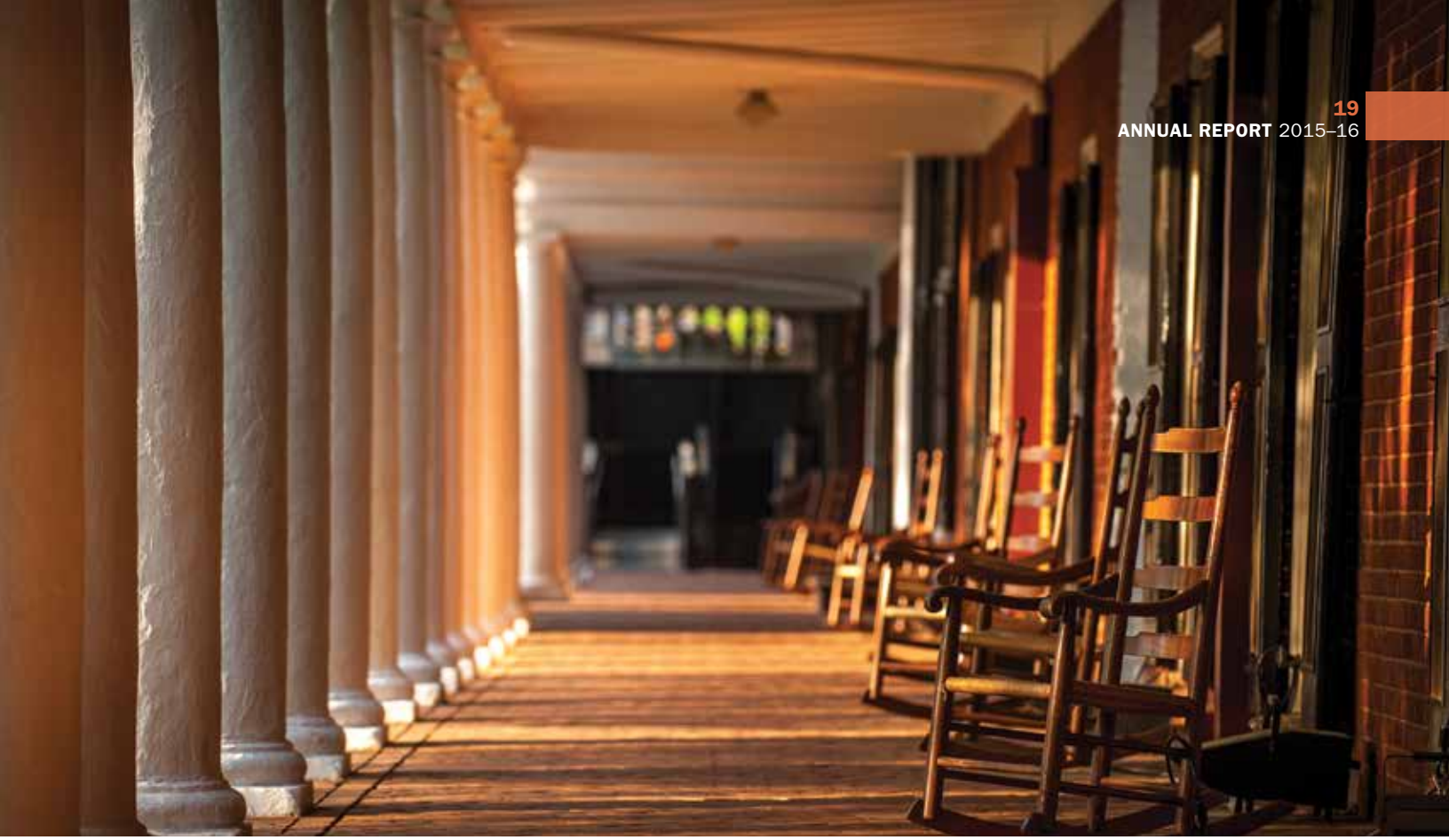
UVIMCO's pool of cash, fixed income, and MAC strategies represented 25.5% of the Long Term Pool as of June 30, 2016. Over the past twenty years, these strategies combined have earned an aggregate annualized return of 6.2% versus the Barclays Aggregate Bond Index return of 5.7%. Within that aggregate, the twenty-year annualized return of our MAC portfolio is 6.6% versus the Barclays Aggregate Bond Index return of 5.7% and the Barclays U.S. High Yield Index return of 7.0%. Government bonds and cash are included in the Long Term Pool primarily for liquidity purposes and because of their low correlation to equity markets. Over the past twenty years, our government bonds portfolio earned 5.8% per year versus the Barclays Aggregate Bond Index return of 5.7% and the Barclays U.S. Treasury Index return of 5.4%.

Looking ahead, we expect the road to remain challenging for investors. Valuations are high for many asset classes, markets have become more competitive, and outsized returns will be increasingly difficult to achieve. UVIMCO's primary competitive advantage is our ability to maintain a long-term perspective in all market conditions, and we will continue to exploit this relative strength for the long-term benefit of our shareholders. We will remain focused on effective asset allocation and risk management while seeking new opportunities to add value to the endowment. We recognize the value of the relationships we have built over many years and will continue to partner with managers who we believe can generate outsized net returns beyond those of passive market participants. ■

TABLE 4: UVIMCO Strategy Allocation and Investment Returns
In percentages

	June 30, 2016 Allocation[1]	Annual Return (Fiscal Year) 2012	2013	2014	2015	2016	Annualized 5YR	10YR	20YR
EQUITY									
Public	24.6	0.0	22.8	26.8	7.2	(5.7)	9.6	9.5	11.0
Long/Short	21.7	6.8	17.3	11.3	6.4	(1.6)	7.9	7.9	10.8
Private	17.1	8.9	11.8	35.3	25.8	(3.9)	14.7	11.9	18.2
Total Equity	**63.4**	**5.3**	**17.3**	**23.3**	**12.0**	**(3.6)**	**10.4**	**10.0**	**13.4**
MSCI All Country World Equity		(6.0)	17.2	23.6	1.2	(3.2)	6.0	4.8	6.1
REAL ASSETS									
Real Estate	6.6	13.0	8.7	14.7	21.8	9.4	13.4	(2.7)	4.0
Resources	4.5	4.7	4.5	27.1	(21.2)	(8.6)	0.1	11.3	—
Total Real Assets	**11.1**	**8.5**	**7.2**	**19.3**	**3.0**	**2.8**	**8.0**	**6.0**	**10.9**
MSCI Real Estate[2]		7.6	10.0	11.6	3.3	16.5	9.7	5.4	7.9
FIXED INCOME, CASH & MAC									
Marketable Alternatives & Credit (MAC)	14.0	3.4	15.7	14.6	(2.4)	1.9	6.4	6.3	6.6
Government Bonds	9.7	0.1	0.2	0.4	0.7	1.2	0.5	3.9	5.8
Cash & Currency	1.8	(0.1)	0.0	0.1	0.0	0.1	0.0	—	—
Total Fixed Income, Cash & MAC	**25.5**	**1.9**	**6.6**	**7.4**	**(0.8)**	**2.0**	**3.4**	**5.2**	**6.2**
Barclays Aggregate Bond[3]		7.1	0.5	4.8	2.4	6.7	4.3	5.1	5.7
Long Term Pool[4]	**100.0**	**5.1**	**13.4**	**19.0**	**7.7**	**(1.5)**	**8.5**	**8.5**	**11.3**
Policy Benchmark[5]		(0.4)	11.3	16.6	1.9	1.8	6.1	5.4	6.5

1. Percent of net asset value
2. 50% MSCI U.S. Real Estate and 50% MSCI All Country World Real Estate (prior to January 1995, 100% FTSE NAREIT)
3. 50% Barclays U.S. Aggregate Bond and 50% Barclays Global Aggregate Bond (hedged in USD)
4. Long Term Pool returns are presented gross of UVIMCO management and incentive fees
5. Geometrically linked monthly average of 60% MSCI All Country World Equity, 10% MSCI Real Estate, and 30% Barclays Aggregate Bond



SHORT TERM POOL

In 2012, UVIMCO established the Short Term Pool to offer the University and related foundations an investment alternative for their short-term operating funds. The primary purpose of this Pool is to preserve principal and provide a low-cost, stable, highly liquid, and secure investment vehicle to UVIMCO's shareholders. The Short Term Pool allows the University and its foundations to invest their cash alongside the cash of the Long Term Pool. By varying their allocations of investment funds between the Long and Short Term Pools, UVIMCO's shareholders can tailor an individualized portfolio of investments to their desired risk and liquidity levels. Holding more liquid investments generally results in decreased overall expected returns in the long term.

The Short Term Pool is invested in U.S. Treasury notes, bonds, and bills with maturities of not more than one year, except for U.S. Treasury floating rate notes, which may have a maturity of up to two years. The Short Term Pool incurs low expenses because UVIMCO charges no management or performance-based fees to the Pool. UVIMCO is also able to customize the composition of the Short Term Pool to meet the liquidity needs of the University and its foundations.

Because asset protection and liquidity are the Short Term Pool's primary objectives, UVIMCO expects that the Pool may yield less than other short-term investment options. Other highly liquid vehicles, including money market funds, often invest in commercial paper or bonds that are exposed to interest rate or credit risk so as to capture incremental basis points of yield. However, these funds can lose principal in the event that investment income does not fully cover operating expenses or investment losses. Therefore, we do not strive for yield in the Short Term Pool. Rather, asset appreciation and income are achieved through the Long Term Pool. ■

TABLE 5: Short Term Pool at a Glance

Fiscal Year 2016 Return	0.17%
Annualized Return Since Inception (October 4, 2012)	0.10%
Yield to Maturity	0.27%
Market Value as of June 30, 2016	$382 million
Duration	0.18 years

Board of Directors

UVIMCO is a separate 501(c)(3) Virginia nonstock corporation. It is governed by a Board of Directors that includes three individuals appointed by the University of Virginia's Board of Visitors and one appointed by the University president. The Board meets four times a year to discuss investment strategy, set investment policy, and monitor performance. UVIMCO's Board of Directors as of July 1, 2016, is as follows:

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✳ Appointed by the UVIMCO Board
❖ Appointed by the Board of Visitors
◆ Appointed by the President of the University

Biographical sketches of UVIMCO's Board members are available on our website: www.uvimco.org.

UVIMCO Staff

The Board of Directors delegates day-to-day investment management activities to UVIMCO's experienced full-time staff. Our team of more than forty professionals works closely with the Board to implement UVIMCO's investment strategy through the selection of external managers, tactical asset allocation, and internal trading. UVIMCO draws on the talent and experience of women and men, many of whom are University of Virginia alumni and all of whom are committed to both investment excellence and supporting the University. Our team's combination of broad-based director experience and dedicated staff provides a generative environment for investment ideas and productive research. Together, we strive to continually refine and improve our investment acumen, due diligence process, and all efforts to fulfill our mission of service to the University.

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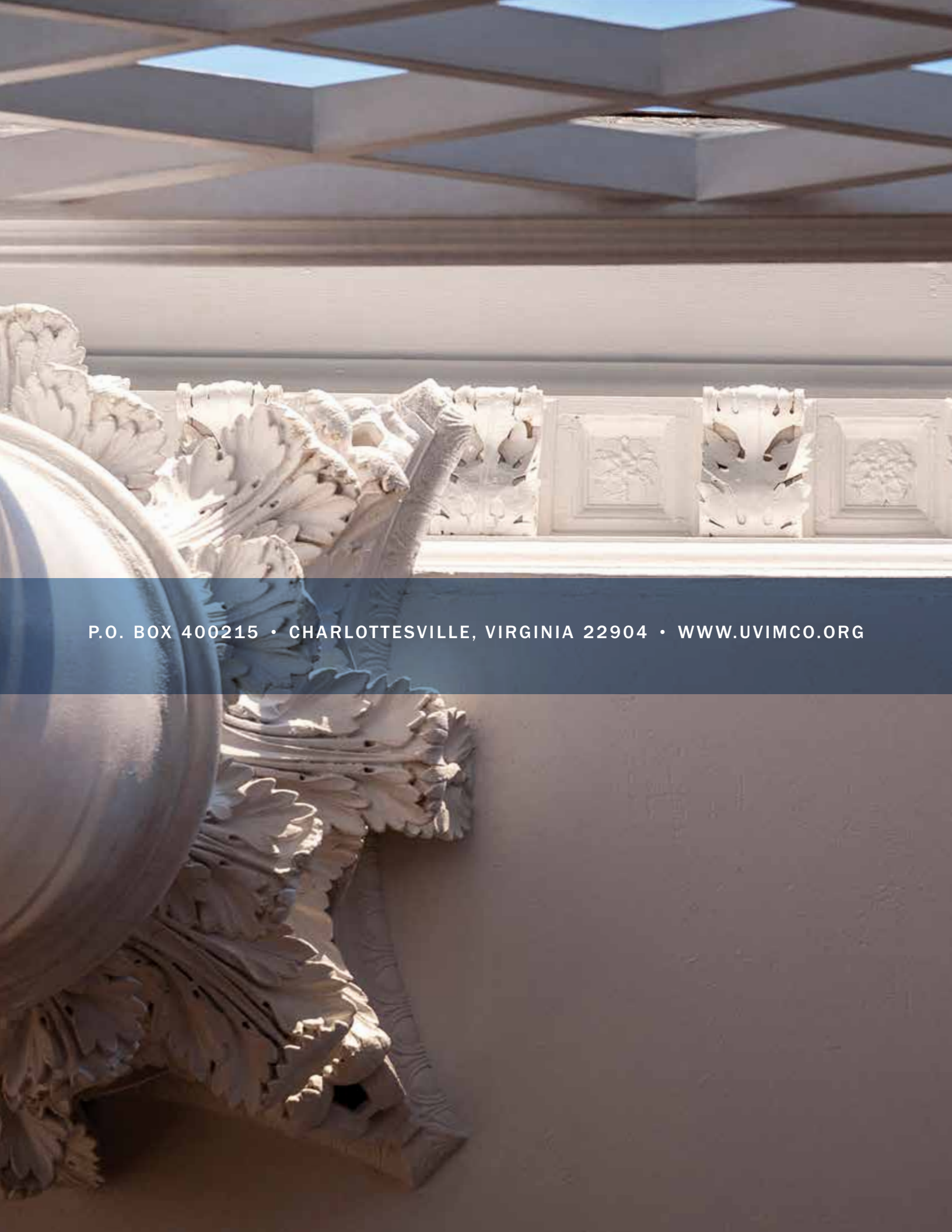

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