

# COLLABORATE

Office of the Chief Investment Officer of the Regents



UNIVERSITY  
OF  
CALIFORNIA

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# Q&A WITH REGENT RICHARD SHERMAN

UC Board of Regents  
Chair of the Investments Subcommittee

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# Q&A



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**We're long-term investors, but each year offers unique challenges and opportunities. Looking back over the past year, what's your take on the highlights – or lowlights?**

The big headline is a good one: Our returns were solid this year. But despite being positively impacted by the global equity markets, we continue to have a pretty sizable exposure. We did end the year with a significant amount of cash, and though it was higher than our long-term allocation target, it effectively acts as a hedge on an equity market that was very long in the rally. It also serves as “dry powder” for investing into both the private equity and venture spaces and lets us take advantage of opportunities as they arise. That said, as long-term investors, we're patient and circumspect about pursuing opportunities given the significant amount of money that's chasing those assets. Jagdeep is looking to leverage our existing relationships and put our money to work as co-investments to get better returns while not being burdened by the typical fund structure.

**Was there anything else that particularly stood out to you with respect to the office this year?**

I was glad to see that Jagdeep and his team have continued to make significant progress in rightsizing their organization, both internally and with our external managers. He's working collaboratively to make our relationships with existing managers more fruitful, saving money while moving the needle in the right direction. When you look at the dollar amount of funds managed per investment professional in the office compared to our peers, we're at the top of the class. We're incredibly efficient, saving billions of dollars without sacrificing results. Moreover, although it's not an excessively compensated team, we do not see an exodus to the private sector because they are appropriately rewarded with significant opportunities for incentive pay. The work is never done, of course, but the office has come a long way over the past couple of years in this area.

**There's a global atmosphere of uncertainty affecting both our university and the world at large. What do you think is the best way for UC Investments to make progress with its goals in such an atmosphere?**

The goal of the office is to grow both the endowment and pension with real rates of return over the long term to support the university and its retirees. Because we're long-term investors and our asset allocation provides a means for us to weather many storms, we have to stick to the fundamentals and ride out these inevitable cycles by maintaining our discipline and not getting caught up in momentum plays. That means that during uncertain times, we may operate with a relatively high cash balance because we're not going to jump on the latest bandwagon and put money to use right this minute. We can be patient, disciplined and wait for the appropriate investments at the right entry point.

**One way the university as a whole thrives in these uncertain times is through our unique climate of innovation. What do you think the UC Investments Office's role is in supporting – or creating – innovation at UC?**

Over the last couple of years, we've talked a lot about putting our investment capital to work to support our intellectual property, and though we've made some progress in this direction, it hasn't happened as fast as I'd like. When an invention comes out of our university, we'd want to be one of the first, if not the first, venture partner. There are so, so many significant discoveries and patents coming out of our university, it just makes sense for us to be a significant participant in the funding and commercialization of these efforts, and, of course, reaping the rewards that come from funding our own innovations. In a perfect world, it is a virtuous cycle of research exploitation supporting further research.

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**“UC IS THE BEST UNIVERSITY SYSTEM IN THE WORLD, AND ALL OF THE REGENTS AND SENIOR STAFF ARE VERY EXCITED ABOUT WHAT WE HAVE TO OFFER: INCREDIBLE UPWARD SOCIAL MOBILITY FOR ALL CALIFORNIANS.”**

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Regarding the UC Investments operations, when I think of innovation, I think of us being at the cutting edge concerning investment management. As mentioned, we have the right size for the office. We have a tight group of external managers, and where it is not value-added to use external managers, we have those dollars managed on a passive basis. That's been a significant shift for us. Combine all of this with the fact that we view all of our investments through various risk lenses – most notably the environmental, social and governance lens – we are innovative leaders in investment management.

**We're celebrating our 150th anniversary this year, which offers a chance to reflect not just on the past, but on the future. Given what you've seen over the last few years as Chair of the Investments Subcommittee, what are your thoughts on how the UC Investments office can prepare the university for the next 150 years?**

On the investment side, we will continue to stress meaningful positive returns over inflation and growing our assets under management. We go

year-to-year not knowing what the state funding level is going to be, and that's a tremendous uncertainty. In any given year, we may have to draw funds from the endowment to replace funding that's been cut by the state, so we have to grow and protect it to be ready for any eventuality. The other uncertainty is the pension. Because our overall employee population is aging and entering their retirement years, we have to wonder: Will the next group of employees continue to support those retirees through their contributions? Will contributions and earnings be able to keep up to maintain and improve our funding ratio? We've enjoyed an improving funding ratio until now, but if inflation heats up, that could change.

However, with those uncertainties acknowledged, I will say I still feel optimistic. UC is the best university system in the world, and all of the regents and senior staff are very excited about what we have to offer: incredible upward social mobility for all Californians. We cannot rest on our past accomplishments. We have to continue to innovate and to look for ways to keep our university moving forward and becoming even better.



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# STATEMENT FROM PRESIDENT JANET NAPOLITANO

President  
University of California

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This year, the University of California celebrates its 150th anniversary. This important milestone has represented an opportunity to reflect on the people and programs that got us here and to prepare for what lies ahead.

At the time UC was established in 1868, no other institution resembled what early Californians had in mind for their university: a top-notch higher education institution accessible to all who qualify academically – regardless of their income or their background.

Indeed, the University of California has always been ahead of the curve when it comes to breaking barriers and expanding opportunity. Hundreds of thousands of stories of UC student success have shown us, time and again, that the opportunity to attend the University of California and earn a college degree can fundamentally change Californians' lives for the better, and they, in turn, change the lives of others still. Our commitment to creating educational opportunity has paid off in the form of social and economic mobility for the individual. And the economic mobility of our graduates has, in turn, resulted in economic benefits to local communities, the state and the nation.

As you would expect, results like these don't come easily. As the university grows in both size and scope, it needs consistent, long-term funding to maintain access, affordability and the quality of its academic, research and public service programs. We will continue to advocate for this critical state support in the upcoming year, and we will do everything we can to further secure the financial future of the University of California.

A central component of this effort is the work of the UC Investments Office. They have been key to moving forward on some of our most important and exciting initiatives, including securing the long-term stability of the UC retirement plan. We have also made significant progress in other areas, such as revitalizing UC's captive insurance program and optimizing the University's working capital and general endowment assets to increase support for research and initiatives across UC.

Meanwhile, the University of California continues to achieve efficiencies, leverage new resources and cut costs wherever we can. Over the last four years, CIO Jagdeep Bachher has transformed the UC Investments Office, keeping a close eye on costs while continuing to deliver the investment results we seek.

As we look forward to the next 150 years at the University of California, we recognize that preserving UC's legacy will be no easy feat. We have no special formula that will conjure up more funding, no quick or easy solution to any of the challenges we must overcome. But working together, we will do everything we can to ensure stable funding and a secure future so we can offer the transformative education that our founders envisioned and that Californians deserve.



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## STATEMENT FROM CIO JAGDEEP SINGH BACHHER

Chief Investment Officer  
and Vice President of Investments

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On any given day, in any given situation, our office is simultaneously asking three important questions: What can we learn from the past? What's happening right at this moment? And how will our decisions affect the future for our stakeholders?

This approach is particularly important right now as we navigate a world where uncertainties abound, the pace of change is quickening and markets respond in sometimes unpredictable ways.

But while the tectonic plates of the markets continue to shift, our office's number one job doesn't: earn the best returns possible for the the university while maintaining an appropriate level of risk.

Over the four years I've been at UC, we've consciously chosen a conservative and defensive path for our risk positioning, while at the same time worked to open our doors and welcome a wider range of opportunities from wherever they might come.

This past year, we focused specifically on deepening our partner relationships with every facet of the university and beyond to test our idea that a culture of collaboration is our ultimate competitive advantage. I'm not talking about a meeting here or an email there. I mean a continuous and substantive dialogue to share ideas in a truly meaningful way.

As we worked more closely with our partners, we found ways to add value to them by being nimble, creative and responsive. And because our office isn't a "boxed" organization, when those partners brought us opportunities that were attractive and met the objectives of our stakeholders, we were ready. Whether it's a fund we're investing in or a partner co-investment or even direct investing, we're now finding more ways to earn

returns while being ever-cognizant of the risks we're taking. In fact, this year we grew the size of our portfolio quite significantly, doing more transactions in the private markets than ever before.

Now that we've embedded a culture of collaboration in our office, we're looking at refining our approach in the coming year. We have the feeling that we're getting late-cycle in many areas and that risks will be coming home to roost sooner than we might have anticipated. So in the year ahead, everyone on our team will be focused squarely on delivering the best returns for each of our products. That focus on performance internally will lead us to produce better results for the entire university. Because in the end, we know that no matter how well an individual or a sector performs in any given year, the metric that matters most is how our university performs overall.

I want to thank all who make it possible for us to do what we do. Every member of our own team. The Regents' Investments Subcommittee. The Office of the President. The Chancellors, administrators, faculty and students across all of our campuses. Our many partners outside the UC system. Thank you. With your continued support, we will have the best chance of success next year and for years to come.

# WHAT MAKES UC, UC?

## THE UC INVESTMENTS WAY

With our size and our approach to investing, we're able to cultivate and capitalize on persistent, high-quality investment opportunities. We pursue markets most investors don't have the scale or the audacity to enter. We also mine every relationship – both within and outside of UC – to discover out-of-the-box opportunities that provide truly meaningful rewards. We call this the "UC Investments Way," which is ultimately about understanding ourselves and our comparative advantages over the marketplace.

### What makes UC unique

**The UC Ecosystem:** We have one of the most robust innovation ecosystems on the planet, with 10 campuses, five medical centers and three national laboratories. Accordingly, we've built a mechanism to thoughtfully invest within that ecosystem; we call this UC Ventures.

**Long-Term, Deep Pockets:** We have a unique advantage over the market in large, long-term infrastructure assets. This is why we helped to launch the Aligned Intermediary, which is a collaborative peer platform that supports investors in making long-term investments in climate infrastructure, such as wind and solar projects.

**Strong Relationships:** The University of California attracts remarkable people from all over the world into its orbit. We proactively work to convert some of these connections into deep relationships. For example, we have been privileged to work with Ratan Tata, formerly chairman of the Tata Group, over the past couple of years. In fact, this relationship has now been formalized in an investment partnership with RNT Associates, Mr. Tata's personal investment vehicle.

**Tech Enablement:** We manage multiple investment and finance businesses from our perch in Silicon Valley, giving us unique access and the ability to support fintech, data, life sciences, cybersecurity and artificial intelligence. We proactively work with innovative tech startups and see this as a source of advantage in our investing.

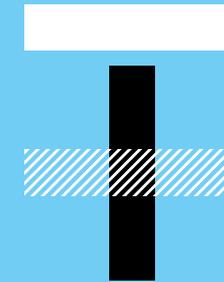
By focusing on where we're different and collaborating with partners we trust, we hope to deliver consistent and reliable investment returns at lower cost and with lower investment risk.



# THE 10 PILLARS OF CENTENNIAL INVESTING

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## 1. Less is more.



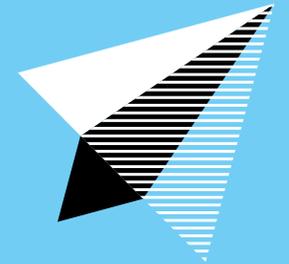
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**“You have to work hard to get your thinking clean to make it simple. But it’s worth it in the end because once you get there, you can move mountains.”**  
Steve Jobs

We believe in high-performance teams working collaboratively to manage a concentrated portfolio of high-quality assets. That’s why we are working actively to reduce the number of decisions we have to make, the number of line items in our portfolio and the number of external managers we use. The result is an agile, world-class team with a laser focus on the areas where we can outperform the market.

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## 2. Risk rules.



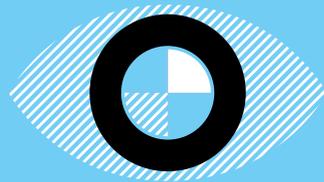
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**“In investing, what is comfortable is rarely profitable.”**  
Robert Arnott

We are working to shift the culture of UC Investments so that everyone on our team becomes a risk manager. We’re also allocating our assets according to the risk factors that drive returns to create more diversity and generate more return per unit of risk. Formalizing our expectations around risk will enable us to assess a single portfolio while also respecting the changing nature of each of our product lines’ risks.

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### 3. Concentrate.



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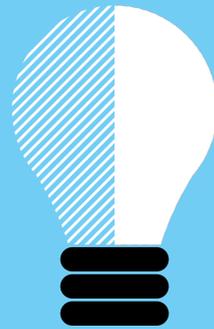
**“Wide diversification is only required when investors do not understand what they are doing.”**  
Warren Buffett

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We are working to construct portfolios from a concentrated set of assets that we understand deeply, as opposed to holding many assets that we barely understand, that cost us more to manage and that are passively replicable. By reducing the number of investments in our portfolios, we believe we can reduce unwanted risks and increase desired returns, while balancing the need to be proactive with the need to adhere to the diligence requirements of our organization.

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### 4. Creativity pays.



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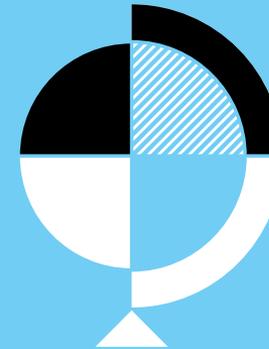
**“The person who goes farthest is generally the one who is willing to do and dare. The sure-thing boat never gets far from shore.”**  
Dale Carnegie

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We are focused on developing competitive portfolios, even if, at times, that means taking an unconventional or uncomfortable stance. One way we are building a culture of innovation is by developing a dedicated innovation team in our organization – a rarity in the world of institutional investment – to incubate, validate and develop creative vehicles that leverage our competitive advantages.

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### 5. Build knowledge.



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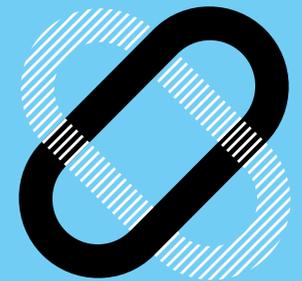
**“An investment in knowledge pays the best interest.”**  
Benjamin Franklin

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We consider ourselves remarkably lucky to be sitting at the heart of such a knowledge-rich university environment, and we are working to get the right systems, policies and processes in place to capitalize on it. We are putting an emphasis on building a culture of collaboration to break down silos and share information across the organization. We are also investing in high-quality data infrastructure to track portfolios, risks and networks.

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### 6. Team up.



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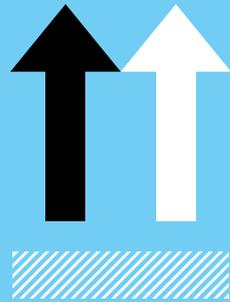
**“Talent wins games, but teamwork and intelligence wins championships.”**  
Michael Jordan

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We realize that to be successful, we must attract the highest-caliber people who are in alignment with our culture and our long-term approach to investing. We target our recruiting where we are most likely to be successful. The gray: those who've had successful careers in the private sector and want a change. The green: bright young recruits who want to accelerate their careers. The grounded: loyal UC alums and others who want to live in California.

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7. What makes UC, UC.



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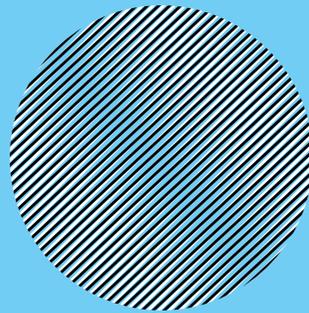
**“If you don’t have a competitive advantage, don’t compete.”**  
Jack Welch

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As the investment organization for one of the premier public research institutions in the world, we have an abundance of characteristics that, if cultivated appropriately, should be a persistent source of high-quality investment opportunities. Our innovation ecosystem is unparalleled on a global scale, and because we sit at the center of it, we believe we can leverage our unique characteristics in ways that drive investment returns.

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8. Perfect alignment.



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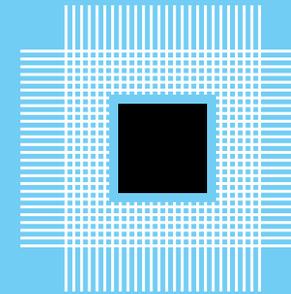
**“Control your expenses better than your competition. This is where you can always find the competitive advantage.”**  
Sam Walton

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Now more than ever, we need to fully understand what we’re paying for. If a third-party manager isn’t willing to provide a detailed breakdown of how they make their money from managing our money, then we should be willing to pull our capital and walk away. By having complete transparency and a better understanding of our investment risks, we will reduce misalignment of interests and capture risk-free returns.

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9. Man meets machine.



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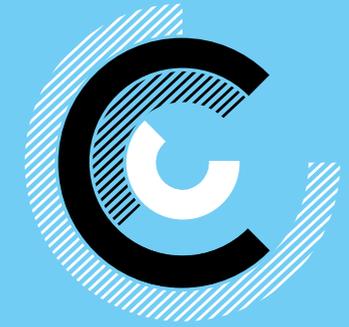
**“You are cruising along, and then technology changes. You have to adapt.”**  
Marc Andreessen

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Sitting on our perch here in Silicon Valley, we believe we can use technology to help us streamline and strengthen operations to level the playing field between us and the private financial-services industry. In the years ahead, we’ll be working with innovative startups to better understand and manage our portfolios and gain greater access to unique markets that had previously been too expensive for us to enter.

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10. Centennial performance.



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**“We should all be concerned about the future because we have to spend the rest of our lives there.”**  
Charles Franklin Kettering

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We think of ourselves as an organization that invests for the next 100 years. Our centennial orientation drives us to assess our portfolio in ways that consider the long-term, fundamental challenges facing society like climate change, human rights or corporate governance. We’re also working to incorporate a broader set of risks into our decision-making than organizations with shorter time horizons.



## BETTER TOGETHER

As the world's most prestigious public university, we are well aware of the value of collaboration – in the education of our students, the research being done in our labs and in the innovations generated through the cross-pollination of our academic departments.

It's the intersection of different people with different ways of thinking that creates the opportunity to do something different. And for us, collaboration is how we can solve the challenges of sustainable, long-term investing.

The UC Investments Office believes in the power of "we." That's why over the past four years we've worked to create a culture of deep collaboration to build relationships that add value, spark growth and open doors we didn't even know existed.

As a small team, working together is crucial to our success. We are not boxed by different groups or asset classes with labels such as private equity or real estate. Because of this, we're able to see unique opportunities that might have been missed in the past, and we're able to bring the best ideas from across our entire office together to capitalize on them.

We also collaborate closely with the Office of the President and with the 10 campuses, five medical centers and three national labs – every facet of the university – to help whenever and however we can.

But to us, collaboration is more than just the willingness to work together. It means you have to come to the table ready to listen – and learn. So we always start our conversations with our partners with the three questions: What do we each bring to the table that's unique? What are we trying to solve? How can we help each other succeed?

As we've worked more closely with all of our partners, we've found we can add immense value. When they bring us attractive opportunities that meet the needs and objectives of our stakeholders, it's our efficiency, responsiveness and entrepreneurial ethos that gives us the edge we need to take advantage.

It's not perfect; it never will be. But today, we no longer fear losing an opportunity because we don't know where it fits.

And today, people across the university and beyond think of us as a willing, collaborative partner. They know they can come to us because we are good at helping find solutions to their problems. And because of this, we are well positioned to take advantage of so many more opportunities going forward.



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# OUR INVESTMENT BELIEFS

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1

**Invest for the long term.**

Where we can, we focus on investments over 10 years and beyond. This offers many more opportunities than those available to short- and intermediate-term investors. We aim to make the most of our scale and ability to be patient.

2

**Invest in people.**

The contributions of talented people are among the most important drivers of success for any investment organization. So we've made the recruitment and retention of exceptional staff a cornerstone of our strategy.

3

**Build a high-performance culture.**

Every organization needs a clearly defined culture to make sure everyone is working toward the same ends and speaking the same language. Our culture is one of responsibility, accountability and high performance. We are proud of our achievements but try to be humble, as markets sometimes surge and fall without warning.

4

**We are all risk managers.**

Our aim is simple: to earn the best risk-adjusted return that meets the objectives of our various portfolios. But achieving that aim is complex. An effective risk-management function is critical, enabling the leadership to delegate authority to the investment team. Everyone on the team is in the risk-management business.

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# 5

## **Allocate wisely.**

The key to investing, and the most important driver of performance, is asset allocation. To make effective investment decisions and achieve the appropriate combination of risk and return, we have to maintain a clear and balanced understanding of stakeholders' unique objectives, time horizons, risk tolerances, liquidity and other constraints. As a globally significant investor, we also aim to make the most of our scale and patience when we allocate assets.

# 6

## **Costs matter.**

High-quality advice comes at a cost. We get that. But we also believe fees and costs for external managers must be fully transparent and straightforward. Anything else creates potential problems – opaque fees can mask risk. Plus, cost savings can be considered a risk-free return. If we can save money through efficient, well-executed strategies, then we must. We intend to aggressively capture every dollar of this risk-free return that we can.

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# 7

## **Diversify with care. Act with clarity.**

Diversification is invaluable, but it's not a cure-all. It allows us to spread risk and reduce the impact of any individual loss. But diversifying too broadly has the effect of producing returns that are index-like and can draw investors into assets and products they don't fully understand. We also need to be keenly aware of our own strengths and weaknesses in the global context in order to act decisively when we believe markets are behaving irrationally or when we have a skill or knowledge advantage. That means keeping a constant, clear-eyed check on our evolving capabilities. It's not always an easy or painless process, but it's an essential one.

# 8

## **Sustainability impacts investing.**

Sustainability is not a "check box," but rather a fundamental concern that we incorporate into decision making. We focus particularly on how sustainability can improve investment performance. Sustainable businesses are often more rooted in communities and resilient to future crises, which means investing in them makes good business sense. They are bound to affect portfolios in the future, and we need to consider them in our broader lens of investment decision making.



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# 9

## **Collaborate widely.**

We are proud to be a part of the University of California, as well as the broader community of institutional investors. Through active collaboration, we aim to leverage the unique resources of the university. We also want to foster collaborative relationships with our peers to leverage our long-term competitive advantages.

# 10

## **Innovation counts.**

The best investors recognize that markets are constantly fluctuating and that no good idea lasts forever. We must always be innovating and identifying new opportunities. Getting in early brings rewards. Just as importantly, some of the best opportunities transcend asset-class silos. There are advantages in thinking differently and partnering with peers that are willing to work with us on innovative projects. Collaboration is one of the most powerful drivers of innovation.



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# INVESTING FOR CHANGE

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Over the past year, we have witnessed a sea change in the effects of sustainable investing on the capital markets at large. The #MeToo movement. Cybersecurity. Two-degree scenario planning for fossil fuel companies. Increasingly alarming climate change research. Social justice. Corporate responsibility, stewardship and governance. All of these issues – and more – are increasingly a part of a modern investor’s day-to-day thinking.

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## Diversity

There’s one issue that has emerged as a core area of focus within our office over the past couple of years: diversity. We believe that diverse organizations are more innovative and productive. And we believe that supporting diversity of all kinds through our partner and investment choices is simply the right thing to do. It’s an area where we still have more ground to gain, and we look forward to sharpening our focus on this in the coming year.

But for the UC Investments Office, sustainability has been a key lever in our decision making for years.

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**In fact, in March of 2018, the Regents Investments Committee voted to make sustainability part of the offices’ investment policy statement, officially recognizing our commitment to sustainability.**

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This important change indicates how far we have come in the last four years to truly embrace ESG as part of the investment process.

Over the past year we have testified before the California state legislature on key sustainable factors which matter to our stakeholders, increased our focus

with managers and in our investment processes on sustainability and advanced our engagement with corporations and stakeholders on important issues. We have gone deeper into our proxy voting and shareholder engagement strategies, identifying key metrics and variables around which to act.

We continue to pursue investment opportunities around sustainable themes, macro trends and economic drivers which we expect to be transformative over the years and decades to come.

As markets, practitioners, investors and stakeholders play catch up and grow ever more sophisticated about the material implications of sustainability to companies, communities and countries, will continue to work hard to create and execute policies that keep up with the evolving sustainable investing landscape.

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## Climate Change

We work to consider climate resilience, as well as the social and economic impact of the effects of climate change, on our portfolio holdings.

In 2017, we became a signatory to the Task Force on Climate-Related Financial Disclosure (TCFD), an international initiative developing voluntary disclosures for companies around carbon risk, participating in dialogues and shareholder meetings with some of the world’s largest fossil fuel companies and those companies that are the tip of the spear for the transition to clean energy. To date, we are the only institutional investor that is a signatory to the Bill Gates Breakthrough Energy Coalition to accelerate clean energy solutions.

We use a targeted climate change risk modeling framework in our private equity, real assets and alternative investment

opportunity assessments. We assess and monitor the risks associated with investing in fossil fuels, as well as reassessing energy holdings in our portfolio to consider changes in overall economic conditions, shifting commodity markets, climate change risk and other emerging ESG risk factors.

We are working actively to position our portfolio to be more resilient to this risk and consistent with the energy transition expected in the coming decades, while still accessing today's opportunities to generate returns. We are close to achieving our goal, set in 2015, of deploying \$1 billion to clean and renewable energy investments over five years.

#### **Ethics & Governance**

Ethics and governance is at the very heart of our fiduciary duty. As long-term asset owners and responsible investors, we seek to enhance our returns by engaging companies to improve performance on important social factors, ethics, governance metrics and actions relating to the environment.

In our proxy voting and through other actions we are standing up for gender equality and pay equity. In 2018, we began a partnership with the Thirty Percent Coalition, a groundbreaking national organization committed to the goal of having women and minorities hold 30 percent of board seats across public companies, as well as working to encourage board diversity at corporations across the US.

We also participated in efforts to have private equity managers increase their diversity, as well as the diversity of their portfolio companies' board members. In 2017, we signed the United Nation Global Compact, and we continue to review how we can seek to better align our investments

and the activities of the companies we own with our core principles of sustainability. Since 2015 we have become increasingly active in voting our proxies, including, for the 2018 proxy season, taking a stand against the nominating committees of companies that lack 30 percent diversity – meaning a representation of women and minorities on their board. We continue to be involved with corporate stewardship efforts, including being a signatory to the Japanese Stewardship Code.

#### **Thought Leadership & Outreach**

We know that when we work together, we can make progress toward sustainability and that makes us better investors. Outreach continues to be a core part of our sustainable investment program, both within the UC ecosystem and beyond.

We are proud to be one of 1,950 signatories to the United Nations-supported Principles for Responsible Investment (UN PRI), an investor initiative that promotes the alignment of investment activities with long-term societal interests through integration of ESG factors. Our senior staff have served on UN PRI working groups with peer institutions to identify best responsible investing practices, as well as on the UN PRI's fixed income and private equity advisory committees.

UC Investments has been a champion of sustainable investing in important global forums including Ceres Investor Network on Climate Risk, 100 Women in Finance, the World Economic Forum, High Water Women Investing for Impact Symposium, the Financial Times and the California Collaborative for Climate Change Solutions.

1. DIVERSITY
2. CLIMATE CHANGE
3. ETHICS & GOVERNANCE
4. AGING POPULATION
5. FOOD & WATER SECURITY
6. INEQUALITY
7. HUMAN RIGHTS
8. CIRCULAR ECONOMY



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## SIZE. SCALE. SERVICE.

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In this year's uncertain markets, we were able to meet our targets because we think and act differently than our peers. We believe the best investments tend to be found in areas where markets are inefficient and where information does not freely travel, so we actively seek opportunities where others don't.

A large part of our success has to do with the magnitude of the assets we manage across a broad scope of products: Endowment, Pension, Retirement Savings, Working Capital (Total Return Investment Pool and Short Term Investment Pool) and Captive Insurance. Because of our size and scale, we're able to capitalize on high-quality investments that just aren't available to most institutions.

On June 30, 2018, our assets under management totaled \$118.7 billion, an increase of \$8.9 billion across all our products from the prior fiscal year, as a result of gains and a net inflow of about \$700 million. Over the past four years, we added \$17.9 billion, \$15.8 billion from the markets and \$2.1 billion from active implementation that is being used to meet the objectives of the UC products and stakeholders.

# OUR PRODUCTS OVERVIEW

	June 30, 2018	1 year ago
Endowment	<b>12.3</b>	<b>10.8</b>
Pension	<b>66.8</b>	<b>61.6</b>
Retirement Savings	<b>24.3</b>	<b>22.3</b>
Working Capital Total Return	<b>9.3</b>	<b>8.9</b>
Working Capital Short Term	<b>5.1</b>	<b>5.3</b>
Captive Insurance	<b>0.9</b>	<b>0.9</b>
<b>Total</b>	<b>\$118.7B</b>	<b>\$109.8B</b>

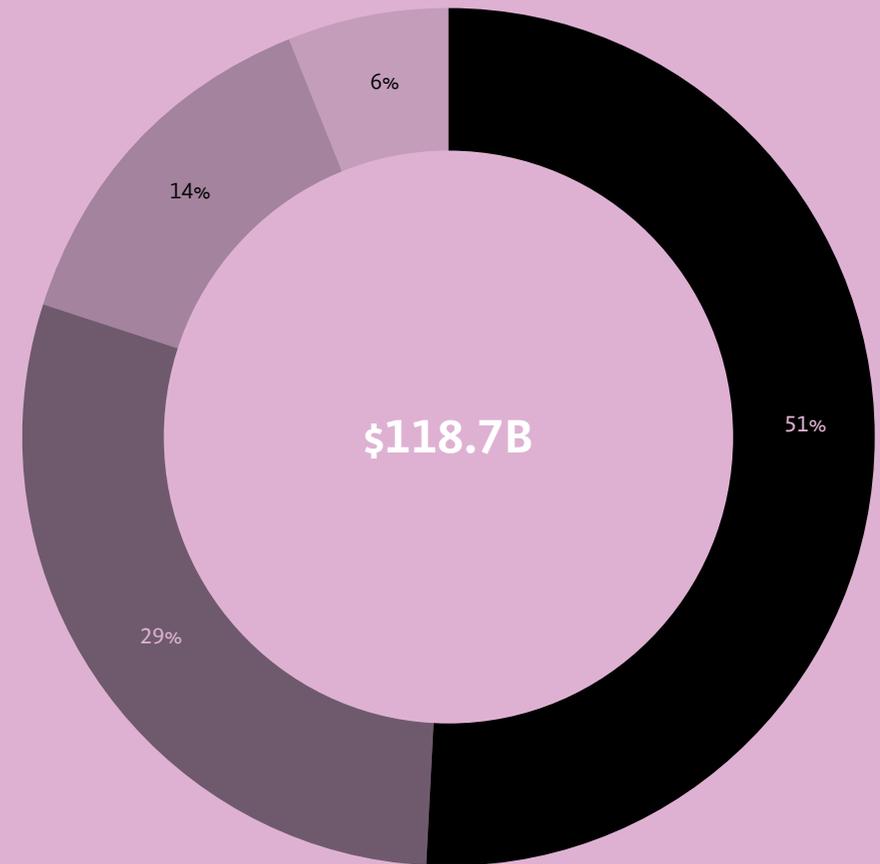
	Market Value in Billions (\$)		
	5 years ago	10 years ago	20 years ago
Endowment	<b>7.2</b>	<b>7.2</b>	<b>4.5</b>
Pension	<b>45.1</b>	<b>42.0</b>	<b>34.5</b>
Retirement Savings	<b>13.9</b>	<b>10.3</b>	<b>5.0</b>
Working Capital Total Return	<b>4.6</b>	<b>—</b>	<b>—</b>
Working Capital Short Term	<b>9.2</b>	<b>7.3</b>	<b>4.6</b>
Captive Insurance	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>\$80.0B</b>	<b>\$66.8B</b>	<b>\$48.6B</b>

# OUR PRODUCTS

## HOW WE INVEST

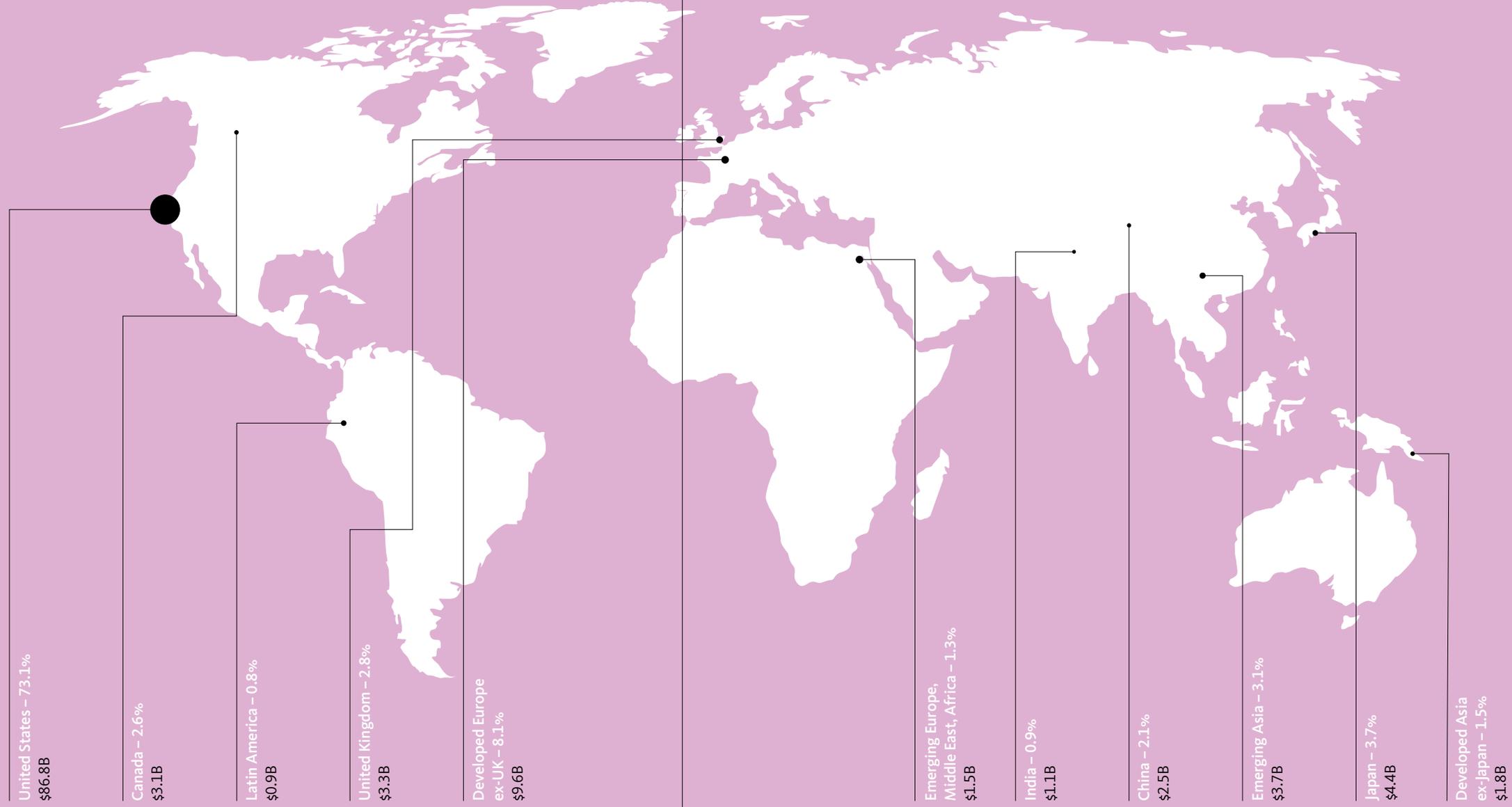
Market Value in Billions (\$)

● Public Equity	\$60.2B
● Fixed Income	\$34.3B
● Other Investments	\$16.8B
Absolute Return	\$7.2B
Private Equity	\$4.4B
Real Estate	\$3.6B
Real Assets	\$1.6B
● Cash	\$7.4B
<b>Total</b>	<b>\$118.7B</b>



# OUR PRODUCTS

## WHERE WE INVEST



# OUR PRODUCTS

## WHAT HAPPENED IN THE EQUITY MARKETS THIS YEAR?

With improvements in the global economy and expectations boosted for corporate earnings growth, global equity markets surged higher, up 11.1 percent (measured by the MSCI All Country World Index Investable Market Index) with all major regions posting gains. The U.S. (+13.9 percent) was the top regional developed market performer given the continued strength in the dollar and the economy, followed by Japan (+9.0 percent), UK (+8.7 percent) and then Europe (+6.1 percent).

Emerging markets (+8.2 percent) gained, but concerns over the rising dollar and trade wars kept returns bounded. Regionally, emerging Asia (+10.1 percent) led the gains with Russia (+24.8 percent), the star performer, and then China (+21.2 percent); Latin America (-0.2 percent) struggled.

● S&P 500 ● MSCI ACWI

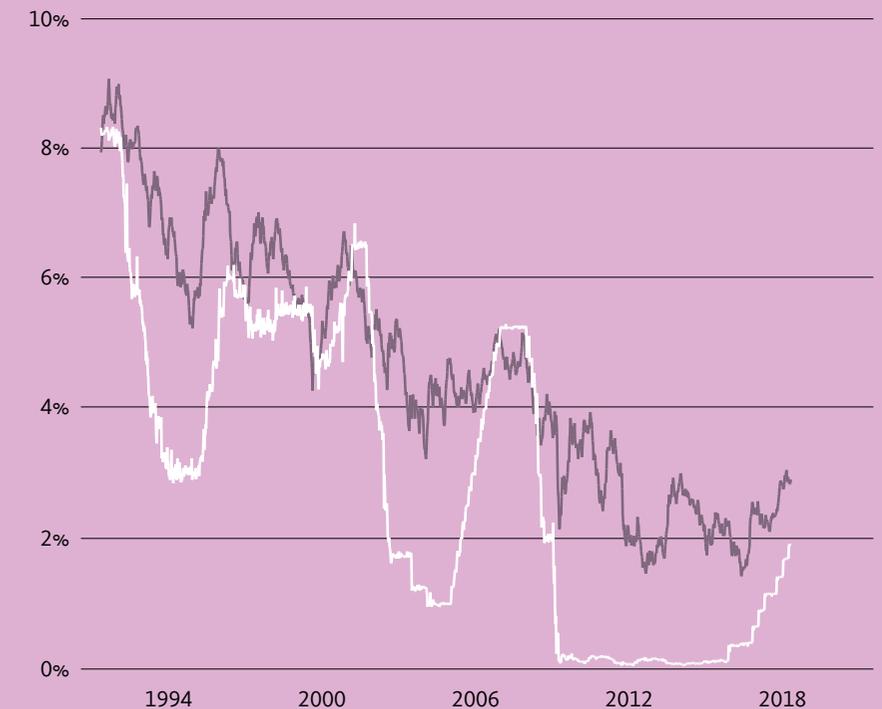


# OUR PRODUCTS

## WHAT HAPPENED IN THE BOND MARKETS THIS YEAR?

Global bond markets saw returns diminish during the year, given Fed tightening and the back-up in yields. We started the fiscal year with U.S. 10-year treasury yield at 2.3 percent and saw it rise past 3.0 percent and then come back down to 2.7 percent. When rates (yields) rise, prices of bonds go down, which results in losses. The Barclays Aggregate US Index lost 0.4% for the fiscal year. Demand for yield and credit assets remains strong given the search for yield, and the markets delivered solid results with U.S. high-yield bonds posting gains of 2.3 percent. Emerging market debt (-1.6 percent) struggled given a difficult environment with trade policy concerns, rising rates in the U.S. and a stronger dollar.

● Fed Funds Rate ● 10-Year Treasury



# OUR PRODUCTS

## MARKET RISKS

At UC Investments, we look at risk through three increasingly dynamic and forward-looking lenses that we call Risk 1.0, Risk 2.0 and Risk 3.0.

With Risk 1.0, we ask the question: “How risky is our portfolio if the future markets look like they have in the recent past.” Of course, we realize the future does not always look like the past, especially during periods of market dislocation and crisis when risk management is most important. So that leads us to Risk 2.0, which integrates the possible market shocks we’re concerned about even though they haven’t happened in the recent past. We might perform a stress test such as, “How much will my portfolio drop if equity markets fall by 15 percent while rates rise by 100 basis points?” Both Risk 1.0 and Risk 2.0 are standard parts of the risk management arsenal, and we monitor these risks using widely-applied systems.

Risk 3.0 is a new concept, one that we have pioneered at UC and are evangelizing to others in the asset owner community. This is where we look at the dynamics of market events as they make their way through the markets – sometimes in surprising, unanticipated ways – so we are better able to navigate the long-term path of risk, as opposed to acting on it as a one-shot, static event.

For Risk 3.0, we look at three different areas: liquidity, volatility and passive investing.

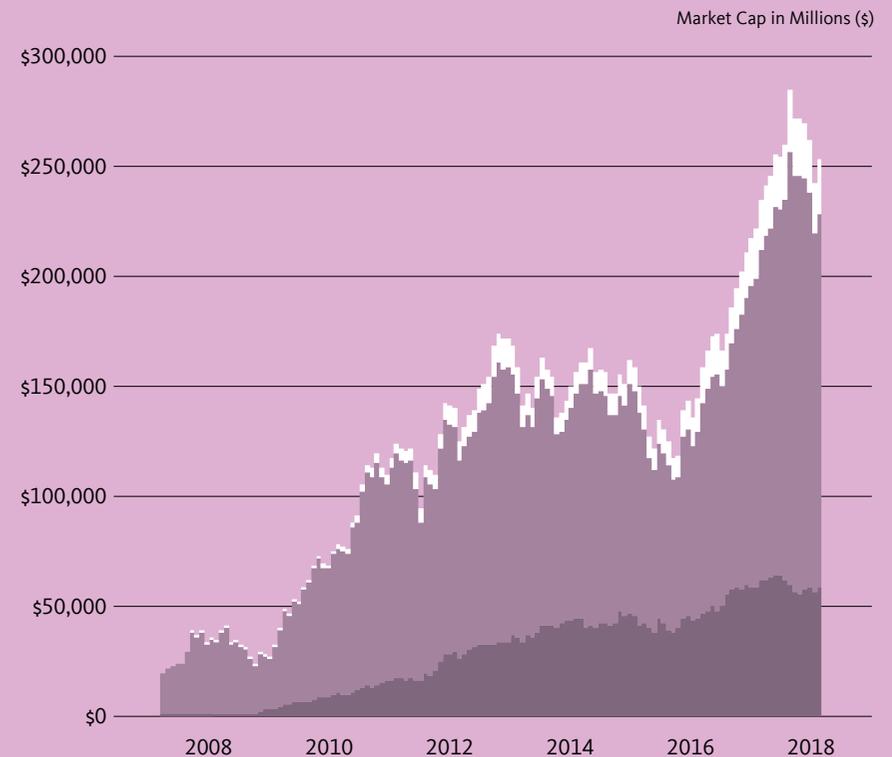
### Liquidity Risk

The markets are less liquid than they were a decade ago. Here’s why: The post-2008 restrictions on leverage have reduced the capacity of a broker-dealer to hold inventory, and the impact of the Volcker Rule on proprietary trading have reduced incentives. We don’t see this drop in liquidity in our day-to-day investing, but if a sudden run of the market occurs, we will find fewer, narrower doors to push through. This means a stress to the markets might have a larger price impact than experience would suggest.

The reduction in liquidity is exacerbated by our focus on markets that have low liquidity to begin with. What will happen if there is a rush for the exits in China or India? What will happen if the exchange traded funds (ETFs) for illiquid markets like high-yield bonds or emerging markets lose the illusion of intraday liquidity? The structural issues behind the ever-growing market for the less liquid ETFs is particularly troubling: You know there must be something that can go wrong when you have a high-yield bond ETF that seems to trade like a stock even though the bonds it contains are that of an illiquid security.

# EXCHANGE TRADED FUNDS

- Emerging Market Bond
- Emerging Market Equity
- High Yield



# OUR PRODUCTS

## MARKET RISKS

### Market Volatility

Volatility has moved up from historically low levels at the start of the year, but it remains far below average. If volatility rises to its longer-term average there will be a rush of selling from investors who are targeting a level of volatility. If a fund is targeting, say, 12 percent volatility and market volatility goes from 12 percent to 24 percent, the fund will need to go from fully invested to 50 percent invested. And that in turn will lead volatility to rise even more, continuing the cycle. Low volatility is what we call the volatility paradox: When volatility is low, risk is actually rising under the covers because people are more emboldened to take on higher leverage and to move to riskier assets. If volatility is half of what it used to be, why not lever twice as much?

### Passive Investing

With the markets, when you do nothing, it doesn't mean you're not doing something because things are happening around you that are changing your investment portfolio. Currently, the most prominent thing happening is that almost all passive portfolios hold stocks on the basis of their market capitalization. This means these portfolios are holding more in companies that are doing well, and on the flip side, effectively selling off stocks that are not doing so well. The current focus for this effect is the run-up in FAANG (Facebook, Apple, Amazon, Netflix, Google) and related stocks; in other times it has been consumer discretionary, which grew to 22 percent of the index in 1972; oil to 30 percent in 1980; technology, media and telecom to 34 percent in 2000; and banking to 23 percent in 2007.

The concentration means that a passive portfolio is not necessarily a well-diversified portfolio. A rise in passive investing puts a dampener on market liquidity; capital stays trapped in passive investments, so any shock will have to go further before it finds the other side of the trade. It also means there is a lack of diversity in investment strategies and outlook.

# OUR PRODUCTS

## MSCI ACWI INDEX 12 MONTH VOLATILITY





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# ENDOWMENT

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For 150 years, UC has been the best university system in the world, and much of that success is due to the strength of the philanthropic support we receive.

The Endowment was established in 1933 with \$100 million when UC had fewer than 3,000 students; today it has grown to a collection of more than 5,700 different funds, serving almost 275,000 students, with a total value of \$12.3 billion. When combined with campus-specific endowments and foundations, our assets total almost \$20 billion, ranking us among the top 10 largest university endowments in the U.S.

Because of our size, our Endowment investment model is quite distinct among our peers, and this year we've continued to work to rightsize and reposition our portfolio to make the most of our strengths. We've also worked closely with the Regents and the Investments Committee this year to develop our overall policy and asset allocation.

Over the last 20 years, the Endowment paid out \$4.2 billion given a spending policy of 4.75 percent of average market value over 60 months. We use the payout to support a broad variety of educational endeavors from innovative research to student scholarships, endowed chairs to departmental support.

In the past four years, we have seen \$2.6 billion in new inflows by collaborating with our partners across the system. Much of the inflows have come from working with all the campuses to optimize their capital and develop Funds Functioning as Endowments (FFE) to support new discoveries and developments, as well as student scholarships and fellowships.

We are humbled by the confidence entrusted by our donors, campuses and foundations in managing assets on their behalf, and we continue to invest to reach our strategic asset allocation and objective of growing the Endowment to support the mission of the university.

# ENDOWMENT

Individual  
Foundations  
Corporations  
Other Non-Profits  
Alumni Foundations

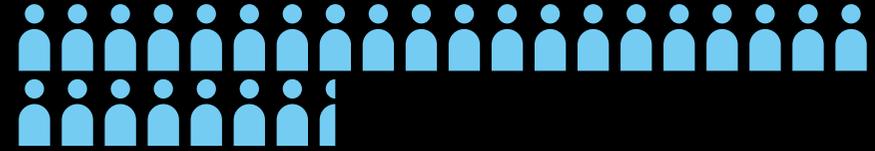


**ENDOWMENT \$20B**

**GEP \$12B IN ASSETS**

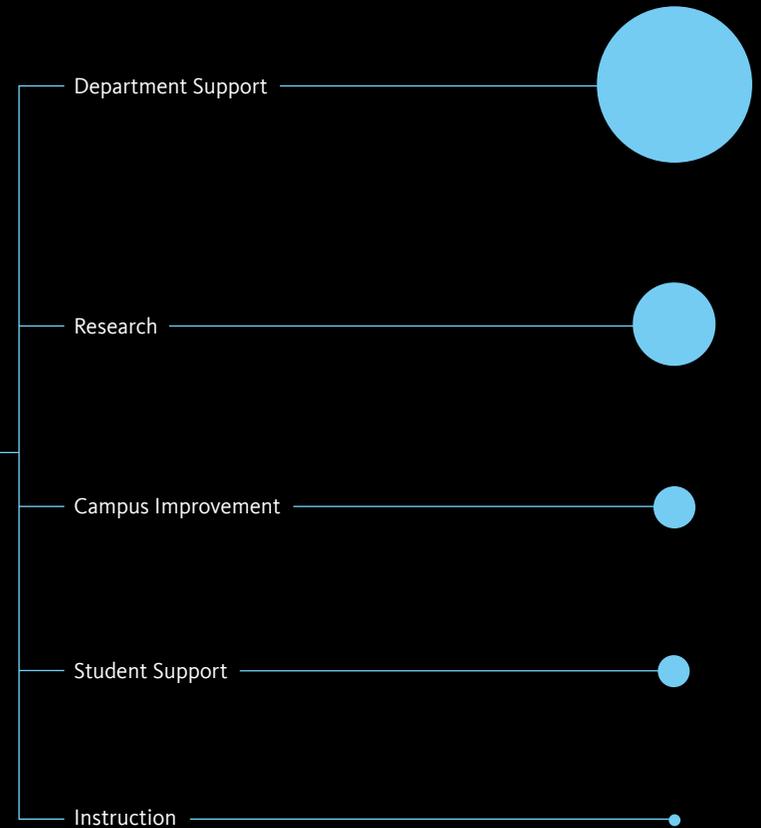
**\$8B IN FOUNDATIONS**

- UCLA (\$2B)
- UCB (\$2B)
- UCSF (\$2B)
- UCR (\$0.1B)
- UCM (\$0.1B)
- UCSB (\$0.2B)
- UCSD (\$0.7B)
- UCI (\$0.7B)
- UCD (\$0.3B)
- UCSC (\$0.1B)



**Supporting 275,000 Students**  
**4.75% GEP Spending Rate or \$277M Payout**

1 icon represents 10,000 students



# ENDOWMENT

## HOW WE INVEST

### GEP Policy Allocation

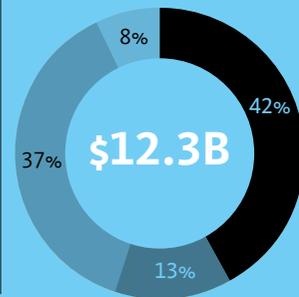
<b>41%</b> <b>PUBLIC EQUITY</b>	<b>18%</b> <b>LIQUIDITY</b>
	<b>19%</b> <b>ABSOLUTE RETURN</b>
	<b>14%</b> <b>PRIVATE EQUITY</b>
	<b>8%</b> <b>REAL ASSETS</b>

Fiscal Year Return 2017-18	<b>8.9%</b>
3 Year Return	<b>6.5%</b>
5 Year Return	<b>8.8%</b>
10 Year Return	<b>6.4%</b>
20 Year Return	<b>6.7%</b>

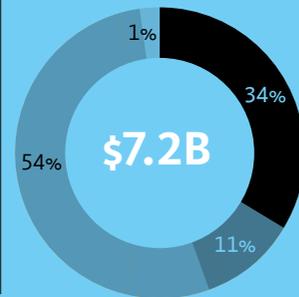
# ENDOWMENT ASSET ALLOCATION

- Public Equity
- Fixed Income
- Other Investments
- Cash

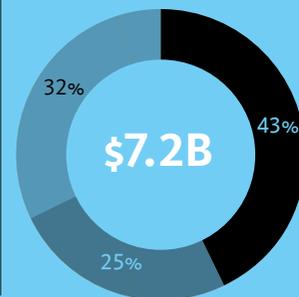
June 30, 2018



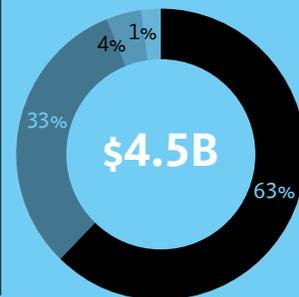
5 Years Ago



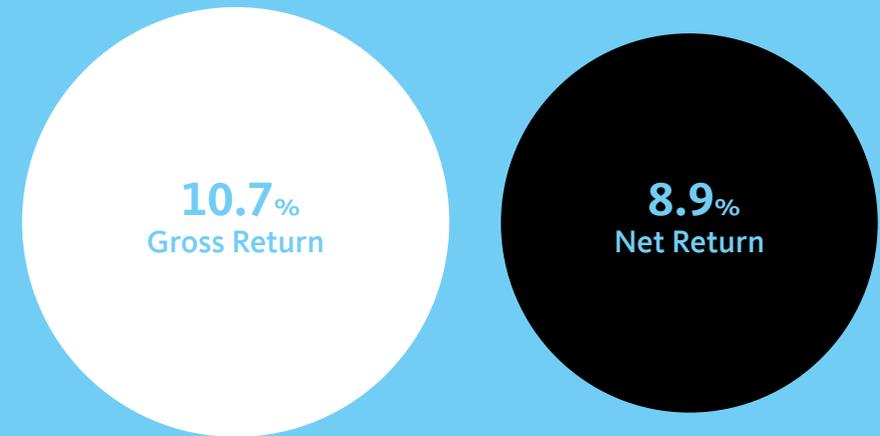
10 Years Ago



20 Years Ago



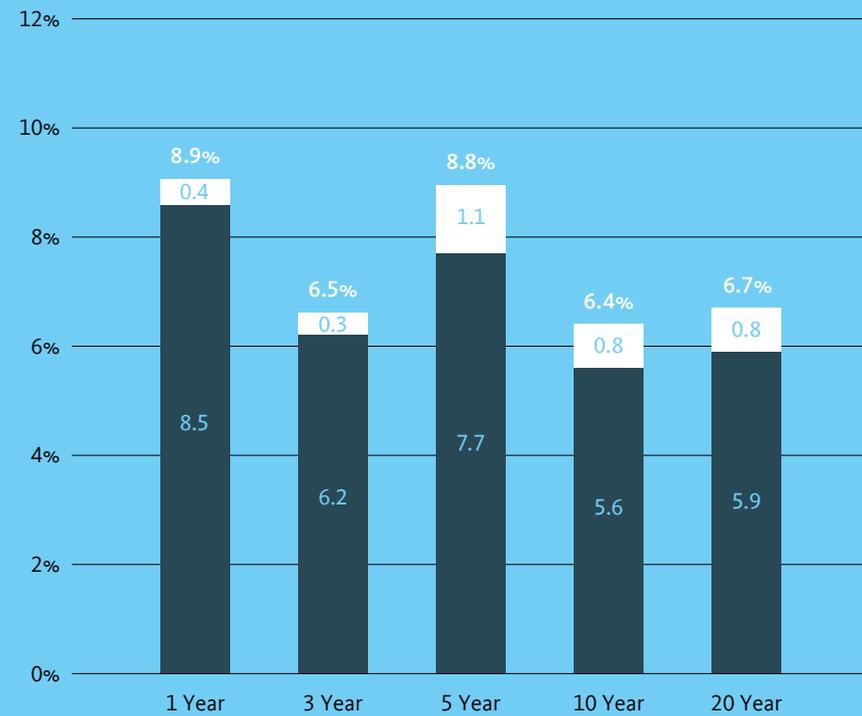
# ENDOWMENT INVESTMENT HIGHLIGHTS



	Market Value in Billions (\$)
June 30, 2017	\$10.8B
Market Gains	\$0.6B
Value Added	\$0.1B
Net Cash Flow	\$0.8B
June 30, 2018	\$12.3B

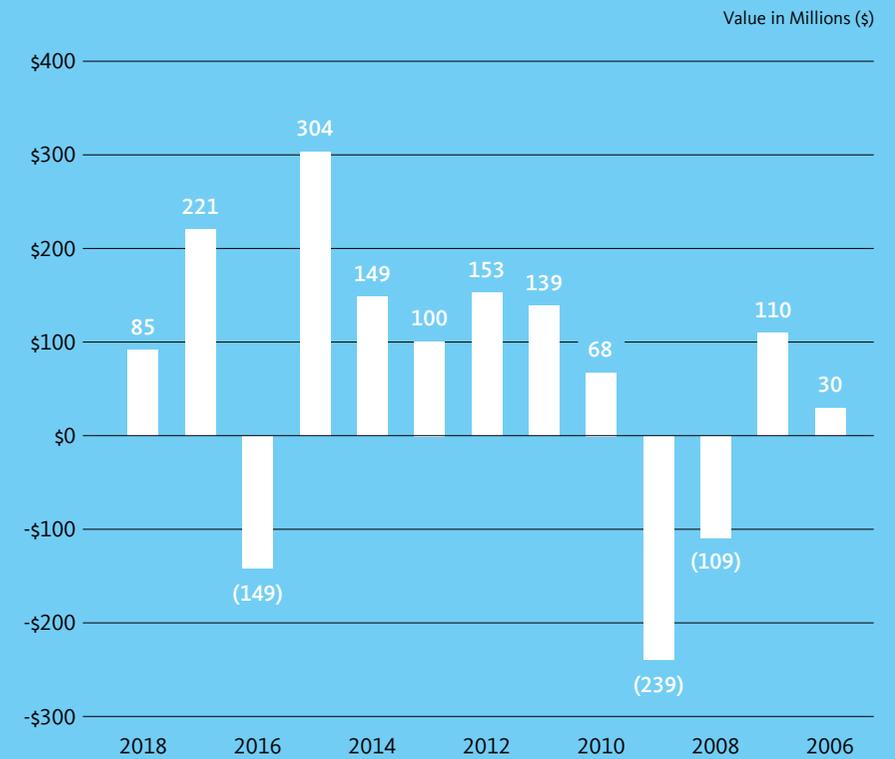
# ENDOWMENT ANNUALIZED NET RETURNS

- Value Added
- Benchmark



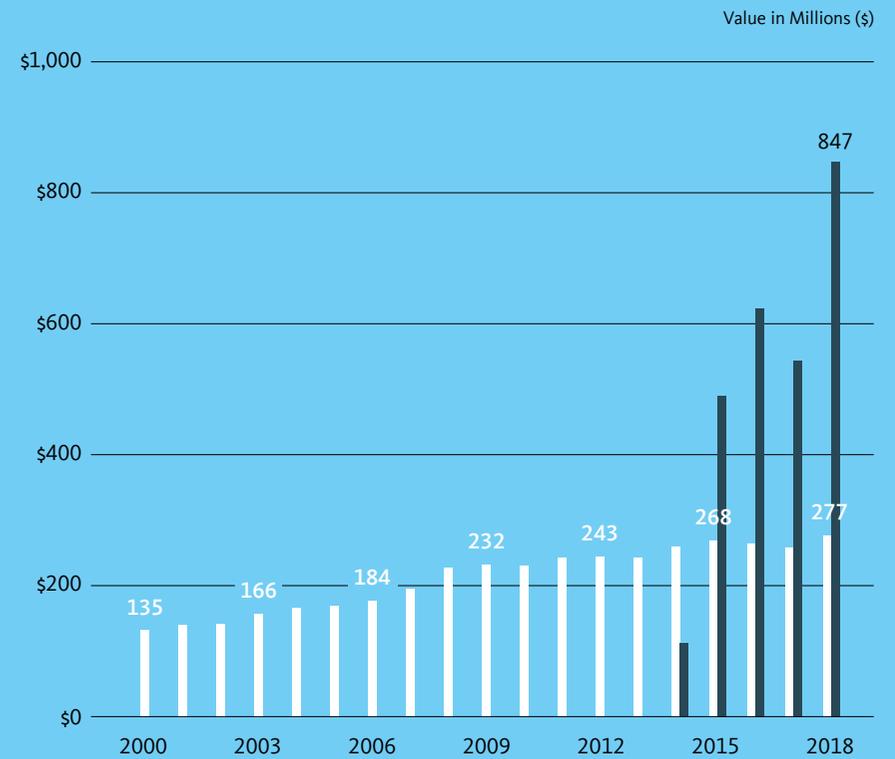
# ENDOWMENT INVESTMENT HIGHLIGHTS

- Dollar value added is what we earned beyond what we would have earned if we were passively invested in the market.



# ENDOWMENT ANNUAL PAYOUT

- Payout
- Inflows



# ENDOWMENT ASSET ALLOCATION

	Market Value in Billions (\$)	Portfolio Weight (%)		Policy Weight (%)	Overweight / (Underweight)
Public Equity	5.1	41.8		41.0	0.8
Liquidity (Income)	1.7	13.5		18.0	(4.5)
Other Investments	4.6	37.2		41.0	(3.8)
Absolute Return	2.4	19.6		19.0	0.6
Private Equity	1.3	10.6		14.0	(3.4)
Real Estate	0.5	4.0		8.0	(1.0)
Real Assets	0.4	3.0			
Cash	0.9	7.5		0.0	7.5
<b>Total</b>	<b>\$12.3 Billion</b>	<b>100.0%</b>		<b>100.0%</b>	

# ENDOWMENT PERFORMANCE

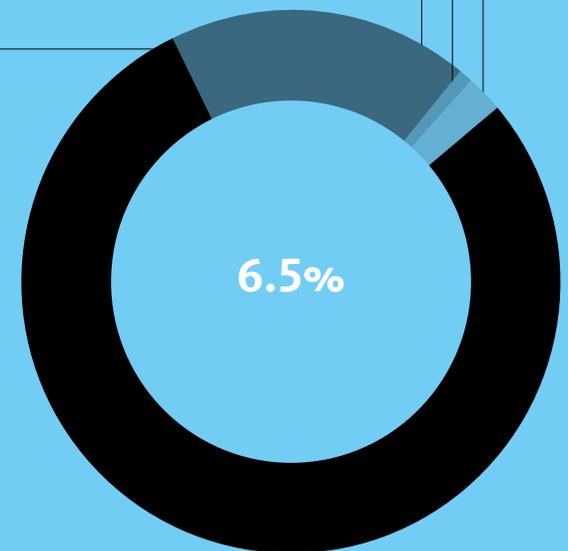
	Market Value in Millions (\$)	Annualized Performance (%)				
		1 Yr	3 Yrs	5 Yrs	10 Yrs	20 Yrs
Endowment	12,301	8.9	6.5	8.8	6.4	6.7
Policy Benchmark		8.5	6.2	7.7	5.6	5.9
Value Added		0.4	0.3	1.1	0.8	0.8
Public Equity	5,144	11.5	7.3	9.8	6.5	5.8
Liquidity (Income)	1,638	1.0	2.7	3.0	4.7	5.4
Other Investments	4,567					
Absolute Return	2,418	6.4	2.0	5.4	4.0	-
Private Equity	1,304	22.7	19.4	22.5	13.9	17.4
Real Estate	492	9.7	9.7	12.2	1.6	-
Real Assets	353	5.6	(1.2)	0.2	-	-
Cash	952	1.5	1.3	1.3	-	-

# ENDOWMENT RISK VOLATILITY

	Endowment
Portfolio	6.5%
Public Equity	10.1%
Liquidity (Income)	1.5%
Absolute Return	2.6%
Private Equity	18.0%
Real Estate	10.3%
Real Assets	15.7%
Cash	0.5%

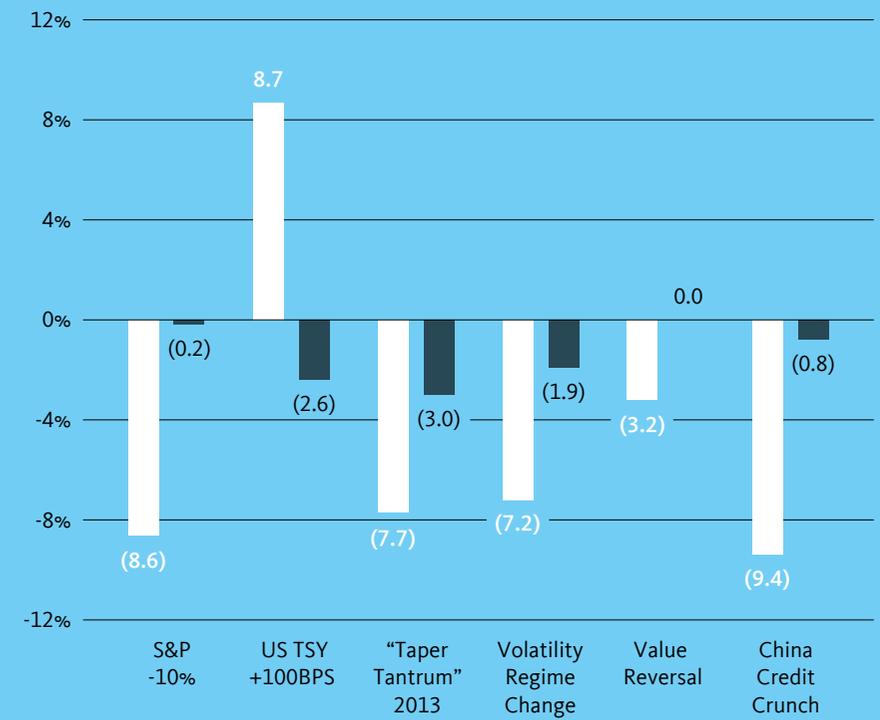
# ENDOWMENT RISK ALLOCATION

Foreign Exchange	2%
Emerging Markets	1%
Residual	16%
Economic Growth	81%



# ENDOWMENT RISK SCENARIOS

- Public Equity
- Fixed Income



# ENDOWMENT POLICY BENCHMARKS

	<b>Policy Benchmark Component</b>	<b>Target</b>	<b>Minimum</b>	<b>Maximum</b>
Public Equity	MSCI All Country World Index IMI Tobacco Free (Net)	41.0%	31.0%	73.5%
Liquidity (Income)	Barclays US Aggregate Bond Index	18.0%	8.0%	28.0%
Other Investments				
Absolute Return	HFRI Fund of Funds Composite	19.0%	9.0%	29.0%
Private Equity	Russell 3000 + 1.5%	14.0%	1.5%	24.0%
Real Estate	NCREIF Open End Diversified Core Equity Index	8.0%	0.0%	13.0%
Real Assets	Actual Real Assets Portfolio Return			



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## PENSION

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To be the world's finest university system, we rely on the talent and hard work of every single employee. And one of the things we offer to recruit and retain the best and brightest is a pension program that offers people financial security in their retirement years.

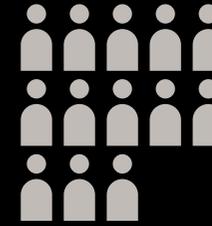
The university's Pension program dates to 1904, and the current Pension plan was designed in 1961 to provide a basic retirement income for our employees. Our core obligation is to provide sound management of the funds within the bounds of the Board of Regents' funding policy to ensure we meet the needs of our more than 235,000 members. To achieve this goal, the UC Pension plan invests across various asset types such as equities and income securities (public and private), real estate, real assets, absolute return and strategic opportunities.

This year's strong returns drove the growth in assets to \$66.8 billion, improving the funding of the Pension. Our funding ratio ending June 30, 2018 is expected to increase to 90 percent on a market value basis from 85 percent. We continue to prudently implement the Pension asset and risk allocation changes approved by the Board that became effective July 2016. Our investments and results help shape the retirement of our faculty and staff who continue to give back even after they have retired.

As with our other products, we work to stay focused on the long term for our Pension, taking steps to improve the management to strengthen outcomes and provide retirement income security for all of our members.

# PENSION

Active Members (129,382)



Retired Members (62,753)



Inactive Members (35,351)



1 icon represents 10,000 members

# ASSETS \$66.8B

## 21.0-23.0% CONTRIBUTIONS

14% Employer

7-9% Employee

Average Active Age (45.0 yrs)

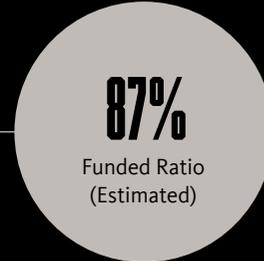
## 7.25% INVESTMENT EARNINGS

+5.55% Expected Real Rate of Return

+3.0% Inflation

(0.8%) Expense Adjustment

(0.5%) Risk Adjustment (55% Confidence)



# LIABILITIES \$73.0B

## BENEFITS

AVERAGE AGE OF RETIREMENT (60.4 YRS)

AVERAGE SERVICE CREDIT (20.7 YRS)

ANNUAL INCOME (\$43,920)

MONTHLY INCOME (\$3,660)

# PENSION

## Policy Allocation

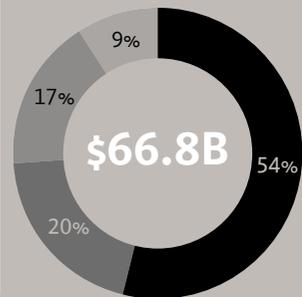
<b>52.2%</b> <b>PUBLIC</b> <b>EQUITY</b>	<b>21.5%</b> <b>INCOME</b>
	<b>7.5%</b> <b>PRIVATE EQUITY</b>
	<b>7.3%</b> <b>ABSOLUTE RETURN</b>
	<b>6.3%</b> <b>REAL ESTATE</b>
	<b>2.4%</b> <b>REAL ASSETS</b>
	<b>2.8%</b> <b>CASH</b>



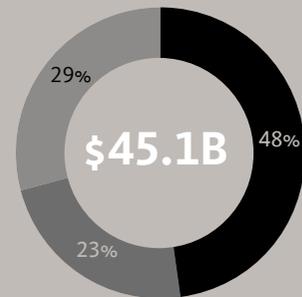
# PENSION ASSET ALLOCATION

- Public Equity
- Fixed Income
- Other Investments
- Cash

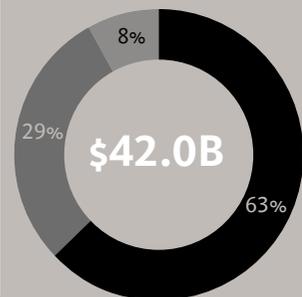
June 30, 2018



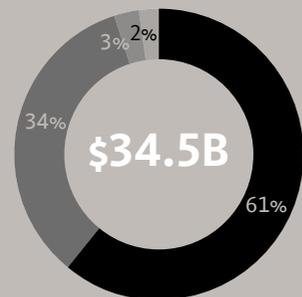
5 Years Ago



10 Years Ago



20 Years Ago



# PENSION INVESTMENT HIGHLIGHTS



	Market Value in Billions (\$)
June 30, 2017	\$61.6B
Market Gains	\$5.2B
Value Added	(\$0.3B)
Net Cash Flow	\$0.3B
June 30, 2018	\$66.8B

# PENSION

## ANNUALIZED NET RETURN

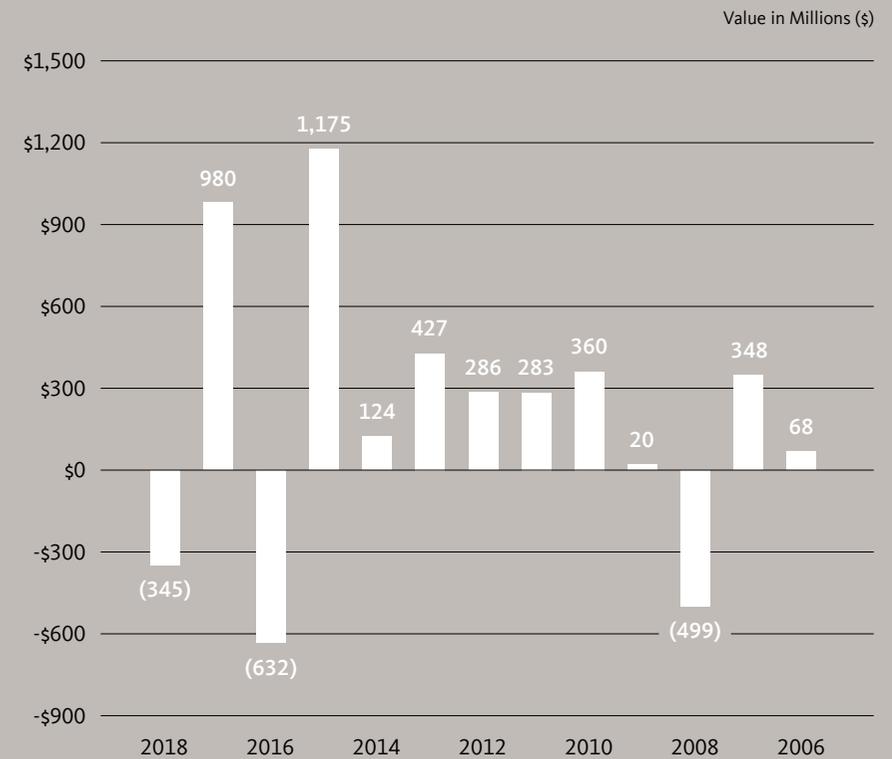
- Value Added
- Benchmark



# PENSION

## DOLLAR VALUE ADDED

- Dollar value added is what we earned beyond what we would have earned if we were passively invested in the market.



# PENSION ASSET ALLOCATION

	Market Value in Billions (\$)	Portfolio Weight (%)	Policy Weight (%)	Overweight / (Underweight)
Public Equity	36.3	54.4	52.2	2.2
Income	13.4	20.1	21.5	(1.4)
Core	8.1	12.2	13.4	(1.2)
High Yield	2.0	3.0	2.9	0.1
Emerging Market Debt	1.6	2.3	2.4	(0.1)
TIPS	1.7	2.6	2.8	(0.2)
Other Investments	11.1	16.5	23.5	(7.0)
Absolute Return	3.7	5.5	7.3	(1.8)
Private Equity	3.1	4.6	7.5	(2.9)
Real Estate	3.1	4.7	6.3	(1.6)
Real Assets	1.2	1.7	2.4	(0.7)
Cash	6.0	9.0	2.8	6.2
<b>Total</b>	<b>\$66.8 Billion</b>	<b>100.0%</b>	<b>100.0%</b>	

# PENSION PERFORMANCE

	Market Value in Millions (\$)	Annualized Performance (%)				
		1 Yr	3 Yrs	5 Yrs	10 Yrs	20 Yrs
Pension	66,752	7.8	6.5	8.2	6.4	6.0
Policy Benchmark		8.4	6.6	7.7	5.8	5.6
Value Added		(0.6)	(0.1)	0.5	0.6	0.4
Public Equity	36,326	10.7	8.2	10.2	6.8	5.5
Income	13,419	0.6	2.8	3.0	4.8	5.5
Core	8,135	0.1	2.3	2.7	4.4	5.1
High-Yield	2,016	2.8	5.4	5.6	8.0	-
Emerging Market Debt	1,538	(1.3)	3.7	3.4	5.6	-
TIPS	1,730	2.3	2.1	1.8	3.3	-
Other Investments	11,062					
Absolute Return	3,715	6.4	2.0	5.4	4.0	-
Private Equity	3,059	19.1	13.0	15.2	10.4	14.9
Real Estate	3,141	8.8	9.4	11.8	1.3	-
Real Assets	1,147	9.2	0.4	1.2	-	-
Cash	5,946	1.6	1.3	1.5	-	-

# PENSION

## RETIREE MEMBER PROFILE

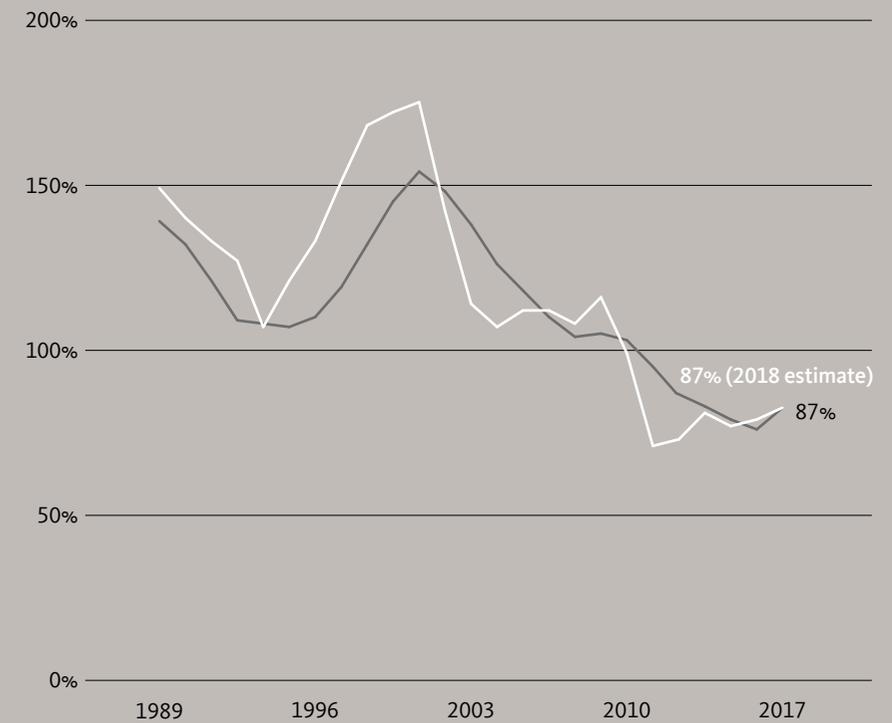
As of June 30, 2017

Average Annual Benefit	<b>\$43,920</b>
Average Monthly Benefit	<b>\$3,660</b>
Average Service Credit at Retirement	<b>21 yrs</b>
Average Age	<b>71 yrs</b>
Average Age at Retirement	<b>60 yrs</b>

# PENSION

## FUNDED RATIO

- Funded Ratio (Market)
- Funded Ratio (Smoothed)



# PENSION MEMBERSHIP

	June 30, 2017
Total Members	<b>237,728</b>
Active Members	<b>129,382</b>
Benefit Recipients	<b>72,995</b>
Inactive Members (Vested)	<b>35,351</b>
Active to Retiree Ratio	2 Active : 1 Retiree



5 years ago	10 years ago	20 years ago
<b>204,023</b>	<b>193,329</b>	<b>133,545</b>
<b>115,568</b>	<b>122,317</b>	<b>92,182</b>
<b>56,296</b>	<b>45,442</b>	<b>29,455</b>
<b>32,159</b>	<b>25,570</b>	<b>11,908</b>
2 Active : 1 Retiree	3 Active : 1 Retiree	3 Active : 1 Retiree

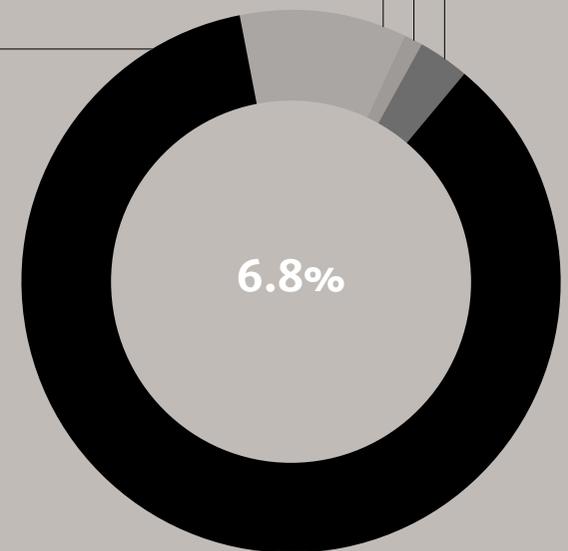


# PENSION RISK VOLATILITY

	Pension
Portfolio	6.8%
Public Equity	10.3%
Fixed Income	2.5%
Absolute Return	3.3%
Private Equity	15.3%
Real Estate	10.6%
Real Assets	20.2%
Cash	0.2%

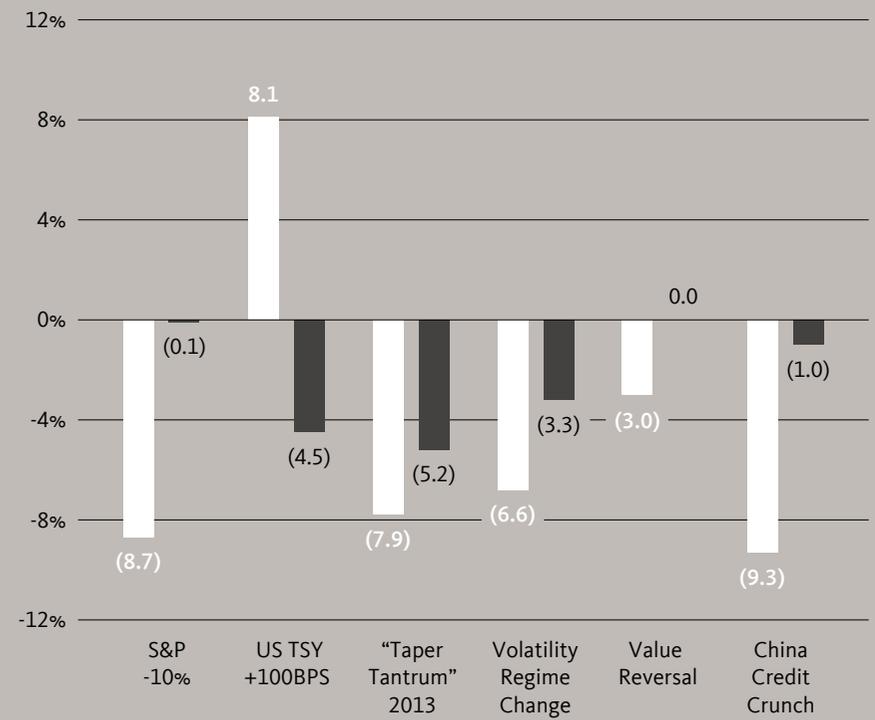
# PENSION RISK ALLOCATION

Foreign Exchange	3%
Emerging Markets	1%
Residual	10%
Economic Growth	86%



# PENSION RISK SCENARIOS

- Public Equity
- Fixed Income



# PENSION POLICY BENCHMARKS

	Policy Benchmark Component	Target	Minimum	Maximum
Public Equity	MSCI All Country World Index IMI Tobacco Free (Net)	52.2%	40.0%	60.0%
Income		21.5%	10.0%	30.0%
US Core	Barclays US Aggregate Bond Index	13.4%	10.0%	16.0%
High-Yield	Merrill Lynch High Yield Cash Pay Index	2.9%	0.0%	5.0%
Emerging Market Debt	JP Morgan Emerging Markets Bond Index Global Diversified	2.4%	0.0%	5.0%
TIPS	Barclays US TIPS	2.8%	0.0%	4.0%
Other Investments				
Absolute Return	HFRI Fund of Funds Index	7.3%	0.0%	20.0%
Private Equity	Russell 3000 + 1.5%	7.5%	5.0%	15.0%
Real Estate	NCREIF Open End Diversified Core Equity Index	6.3%	2.0%	12.0%
Real Assets	Actual Real Assets Portfolio Return	2.4%	2.0%	6.0%
Cash		2.8%	0.0%	10.0%



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## RETIREMENT SAVINGS

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The best thing our employees can do to secure a better future is to save more, so we give them additional opportunities to invest through our Retirement Savings program.

Today, we help more than 315,000 participants save for their future, and our assets have grown to \$24.3 billion, making our Retirement Savings program the second-largest public defined contribution (DC) plan in the country (only the federal government's is bigger). Our 403(b) plan is the largest in the country.

The program is structured as a three-tiered investment lineup, and through our ongoing effort to enhance the Retirement Savings program, our participants now have access to an industry-leading lineup with an average management fee of less than 0.07 percent, well below industry standards.

Tier 1, the default option, is our Target Date Funds called UC Pathway. With assets of \$9.0 billion, Pathway has more than doubled in the past five years as we shifted the assets from the legacy Balanced Fund and Savings Fund.

Tier 2 includes 12 core options that participants can use to build their own asset allocation.

Finally, Tier 3 is a brokerage window that offers participants access to a menu of third-party mutual funds.

Over the past year, we have implemented a number of changes to make investment options easier to understand, eliminate redundancy and reduce costs even further. We have our focus keenly on the future and are working on an innovative addition to our DC plan that will offer our members the best of both worlds: liquidity after retirement combined with a guaranteed income stream through a deferred-income annuity in the latter years of retirement when our members need it most.

In everything we do, we stay focused on our core goal: optimizing participant outcomes through superior performance and cost management.

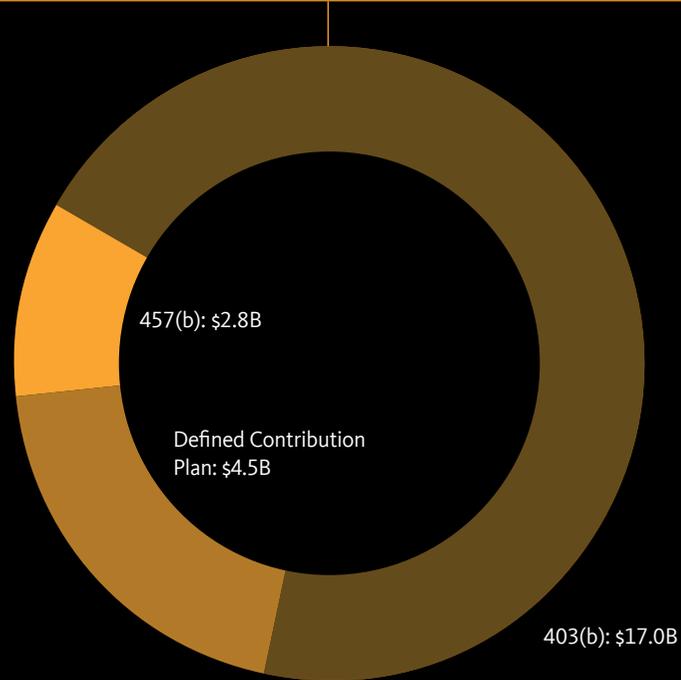
# RETIREMENT SAVINGS



315,800 Participants

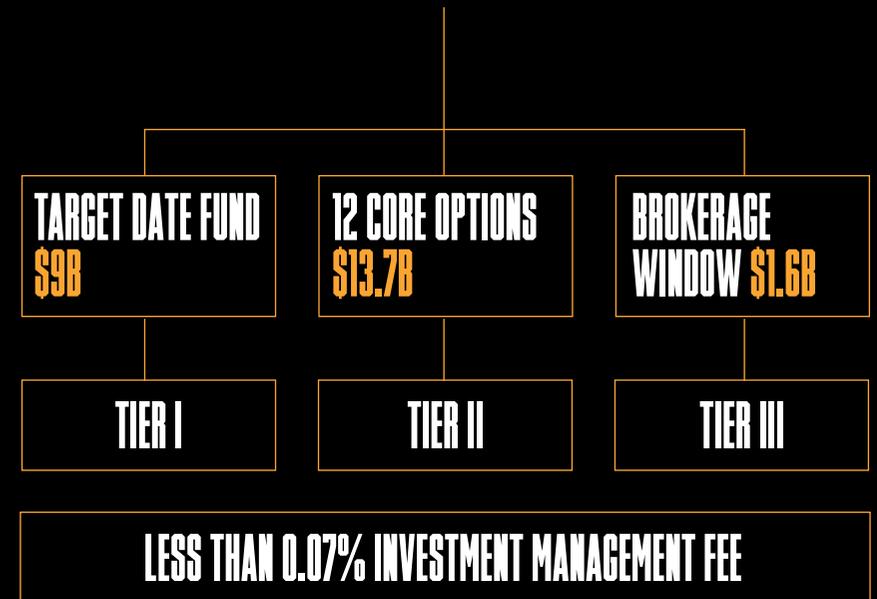
1 icon represents 10,000 participants

**\$24.3B IN 3 PLANS**



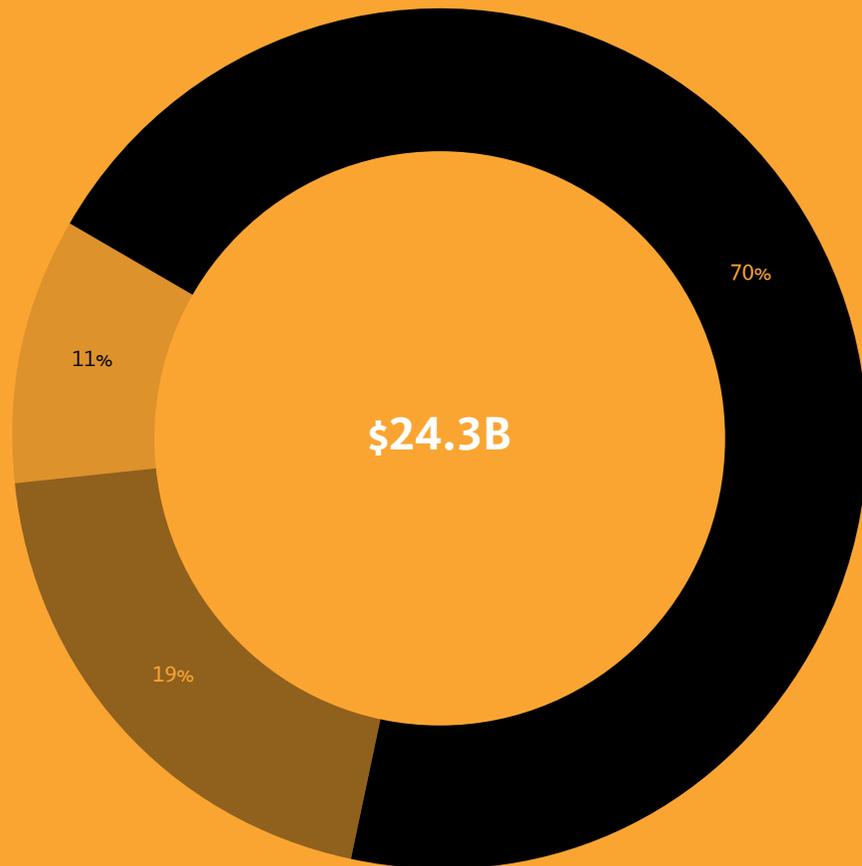
10.3% Voluntary Deferral Rate

## INVESTMENT STRUCTURE

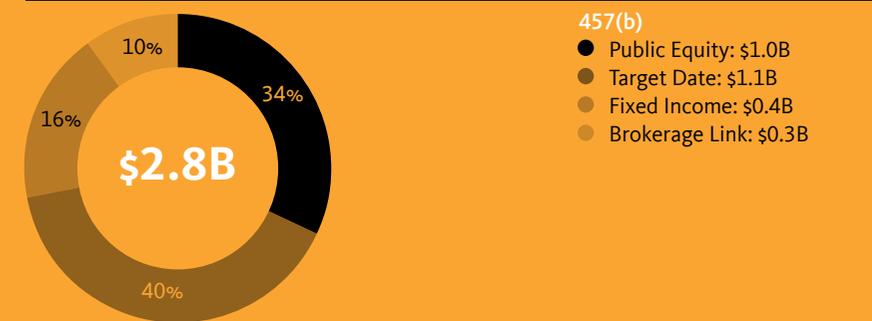
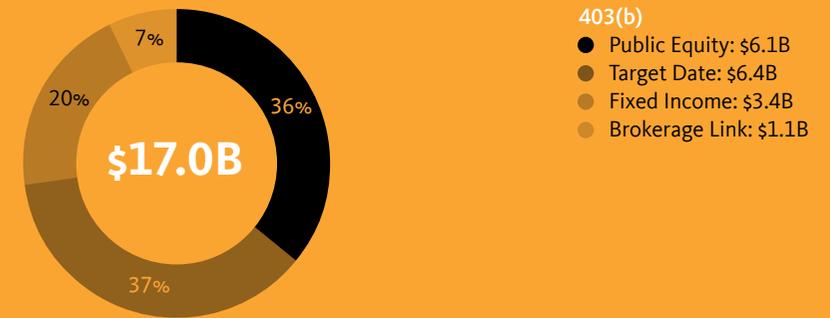


# RETIREMENT SAVINGS PLAN ALLOCATION

- 403(b): \$17.0B
- Defined Contribution Plan: \$4.5B
- 457(b): \$2.8B



# RETIREMENT SAVINGS ASSET ALLOCATION





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## WORKING CAPITAL

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While many of our products are focused on securing our system's future, our Working Capital is firmly rooted in the here and now. It's the product that provides our 10 campuses and five medical centers the funds needed to pay for the building projects and student-focused programs that make UC the best in the world.

Working Capital ended the year at \$14.4 billion, an increase from the previous fiscal year after taking into account the payout of investment income and campus withdrawals to fund projects.

Working Capital is divided into two portfolios: Total Return Investment Pool (TRIP) and Short Term Investment Pool (STIP).

TRIP's portfolio is managed to produce higher long-term returns than STIP through an asset and risk allocation geared to an intermediate-term horizon. TRIP assets ended the year at \$9.3 billion.

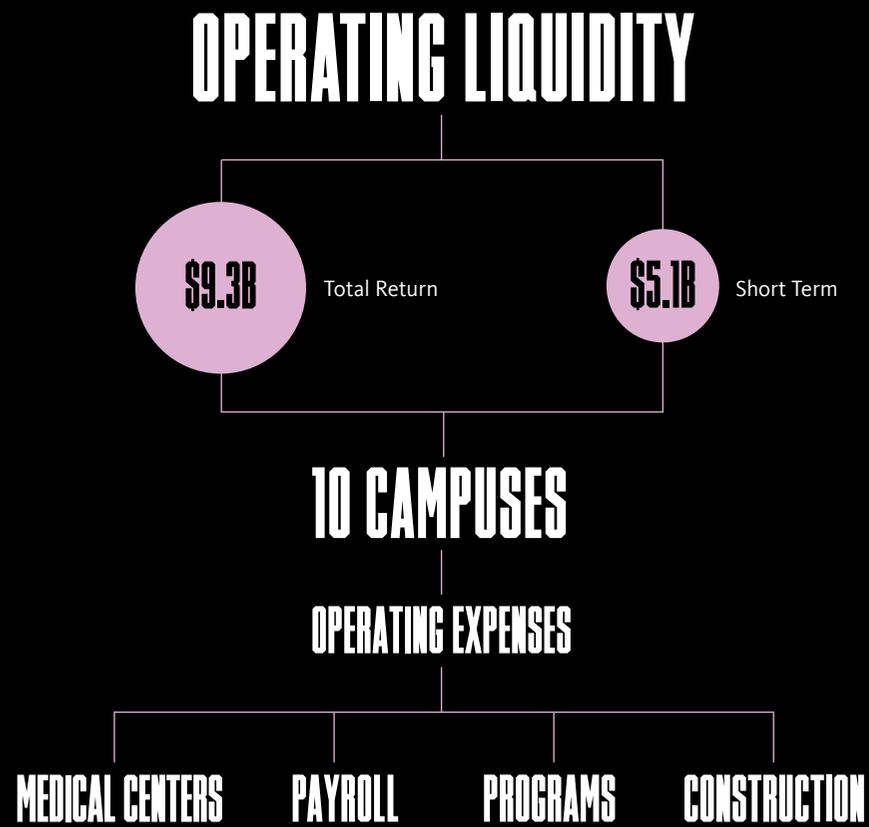
STIP, a high-quality, short-maturity portfolio, is managed to safeguard assets and ensure adequate daily liquidity to meet the university's cash needs and external rating agency requirements. STIP assets ended the year at \$5.1 billion.

Over the past five years we have worked with campuses to optimize their capital and have shifted more than \$2.0 billion to TRIP from STIP, which has generated additional income for campuses of \$400 million.

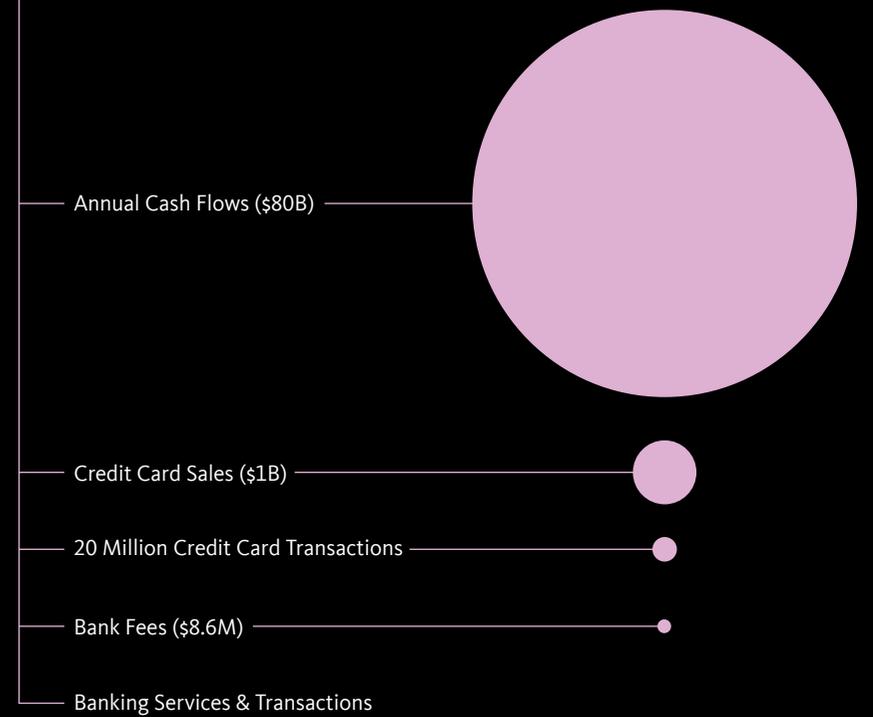
We continue to assess overall liquidity needs and look for ways to reduce fees, enhance investment results and make our capital work.

The Cash and Liquidity Management (UC Treasury) team, which provides banking services to our campuses and medical centers, has been with us for three years and works with each of our campuses on a day-to-day basis to manage and forecast the systemwide cash flows in and out of STIP. Each year, they process 93 million banking transactions, 20 million credit card transactions and \$1 billion in credit card sales.

# WORKING CAPITAL



# TREASURY & CASH MANAGEMENT



# WORKING CAPITAL HOW WE INVEST

## Asset Allocation

**68%**  
**FIXED  
INCOME**

**23%**  
**PUBLIC EQUITY**

**9%**  
**ABSOLUTE RETURN**

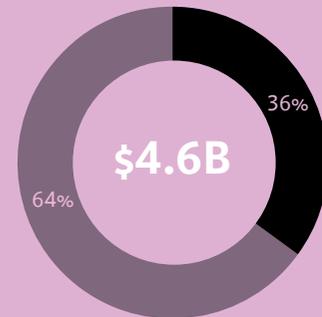
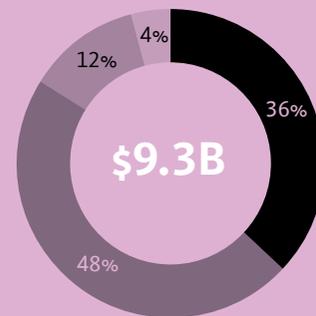
	Total Return	Short Term
Fiscal Year Return 2017-18	4.5%	1.7%
3 Year Return	4.1%	1.4%
5 Year Return	5.8%	1.4%
9.8 Year Return (Since Inception of Total Return August 2008)	6.8%	1.9%
20 Year Return	N/A	3.4%

# TOTAL RETURN INVESTMENT POOL

## ASSET ALLOCATION

June 30, 2018

- Public Equity
- Fixed Income
- Other Investments
- Cash

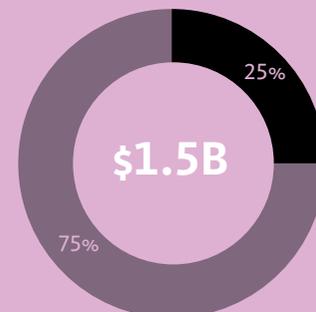


5 Years Ago

- Public Equity
- Fixed Income

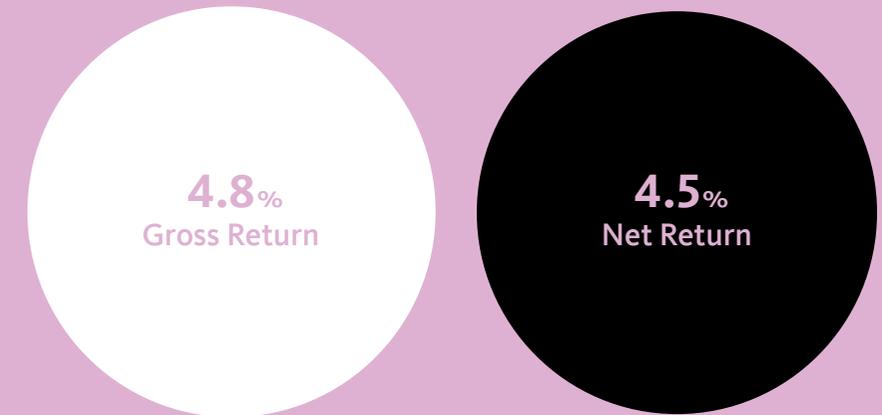
Inception: August 30, 2008

- Public Equity
- Fixed Income



# TOTAL RETURN INVESTMENT POOL

## INVESTMENT HIGHLIGHTS



	Market Value in Billions (\$)
June 30, 2017	\$8.9B
Market Gains	\$0.4B
Value Added	\$0.0B
Net Cash Flow	\$0.0B
June 30, 2018	\$9.3B

# TOTAL RETURN INVESTMENT POOL

## ANNUALIZED NET RETURN

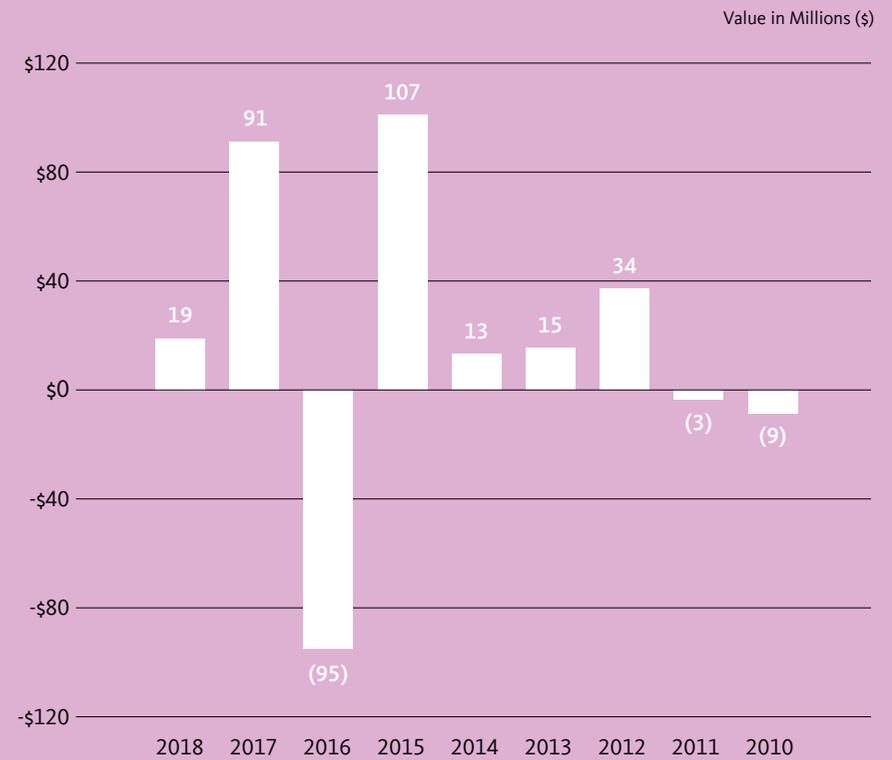
- Value Added
- Benchmark



# TOTAL RETURN INVESTMENT POOL

## DOLLAR VALUE ADDED

- Dollar value added is what we earned beyond what we would have earned if we were passively invested in the market.



# TOTAL RETURN INVESTMENT POOL

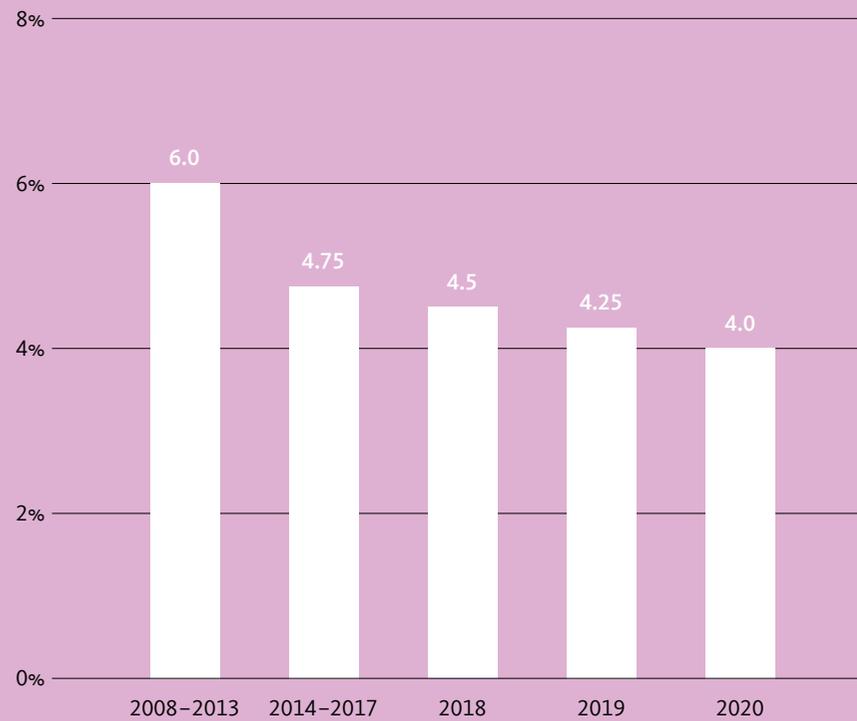
## ASSET ALLOCATION

	Market Value in Billions (\$)	Portfolio Weight (%)	Policy Weight (%)	Overweight / (Underweight)
Growth	3.4	36.4	35.0	1.4
Public Growth	3.3	35.6		
Private Growth	0.1	0.8		
Income	4.4	47.7	50.0	(2.3)
Public Income	4.0	43.7		
Private Income	0.4	4.0		
Absolute Return	1.1	11.8	15.0	(3.2)
Cash	0.4	4.1	0.0	4.1
<b>Total</b>	<b>₹9.3 Billion</b>	<b>100.0%</b>	<b>100.0%</b>	

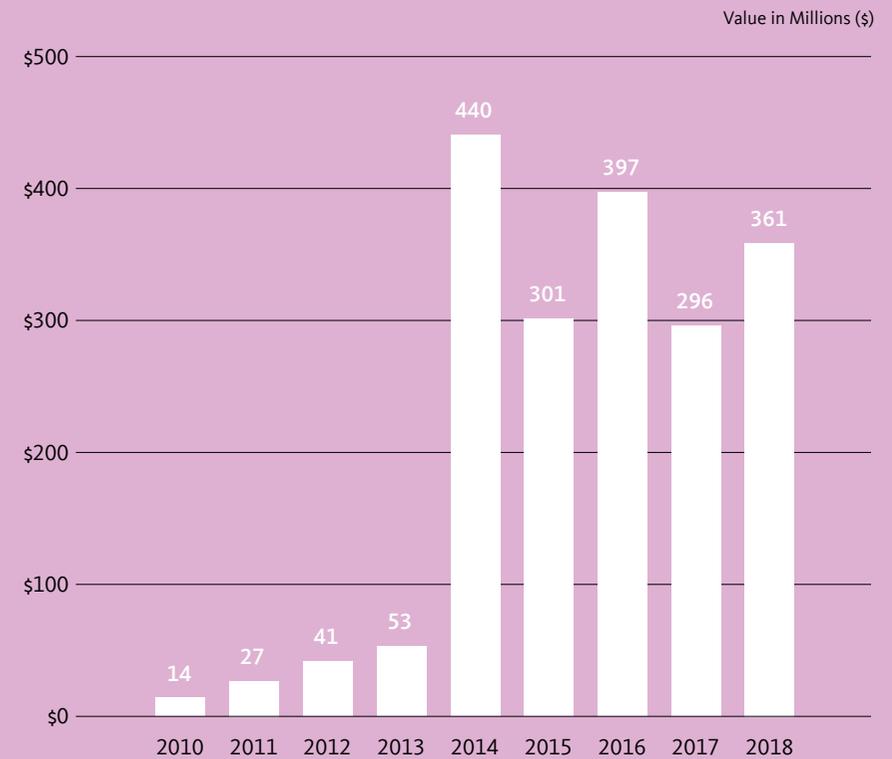
# TOTAL RETURN INVESTMENT POOL PERFORMANCE

	Market Value in Millions (\$)	Annualized Performance (%)			
		1 Yr	3 Yrs	5 Yrs	7 Yrs
Total Return Investment Pool	9,257	4.5	4.1	5.8	6.3
Policy Benchmark		4.3	4.0	5.5	5.9
Value Added		0.2	0.1	0.3	0.4
Growth	3,373	12.1	8.0	9.8	9.7
Public Growth	3,296	11.9	7.6	9.8	9.7
Private Growth	77	19.4	-	-	-
Income	4,416	0.4	2.5	3.3	4.0
Public Income	4,050	0.0	2.5	3.3	4.0
Private Income	366	3.6	3.2	-	-
Other Investments	1,089				
Absolute Return	1,089	(0.5)	0.3	-	-
Cash	379	1.5	1.3	-	-

# TOTAL RETURN INVESTMENT POOL PAYOUT POLICY



# TOTAL RETURN INVESTMENT POOL ANNUAL DISTRIBUTION



# TOTAL RETURN INVESTMENT POOL

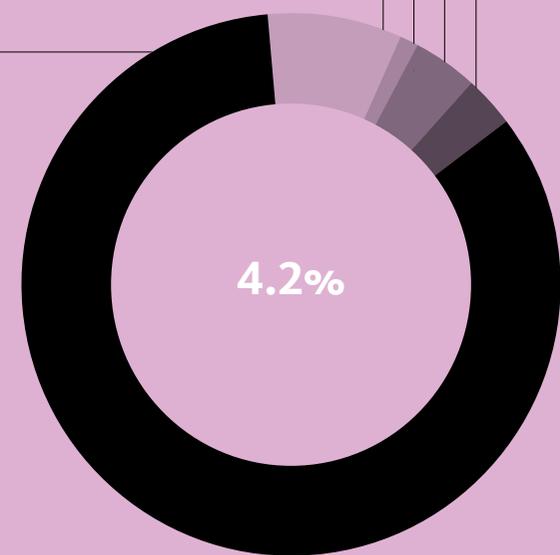
## RISK VOLATILITY

	Total Return Investment Pool
Portfolio	4.2%
Growth	10.2%
Income	2.7%
Absolute Return	3.8%
Cash	0.5%

# TOTAL RETURN INVESTMENT POOL

## RISK ALLOCATION

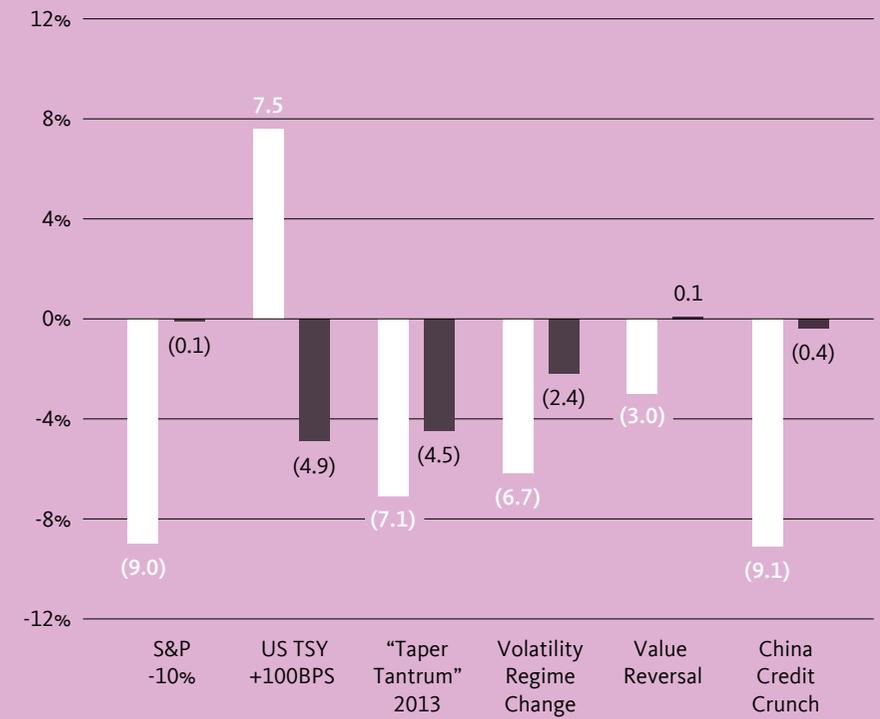
Real Rates	3%
Foreign Exchange	4%
Emerging Markets	1%
Residual	8%
Economic Growth	84%



# TOTAL RETURN INVESTMENT POOL

## RISK SCENARIOS

- Public Equity
- Fixed Income



# SHORT TERM INVESTMENT POOL

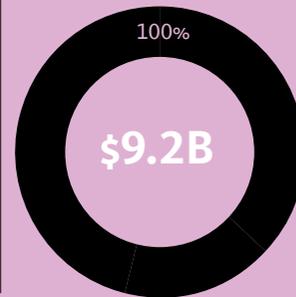
## ASSET ALLOCATION

- Fixed Income

June 30, 2018



5 Years Ago



10 Years Ago

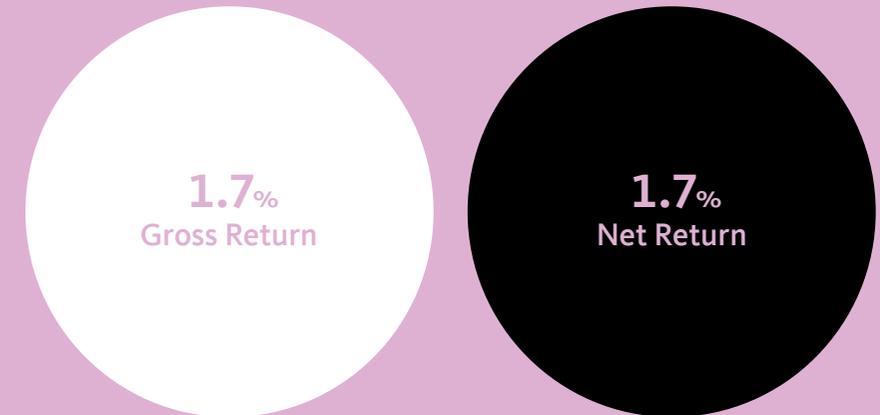


20 Years Ago



# SHORT TERM INVESTMENT POOL

## INVESTMENT HIGHLIGHTS

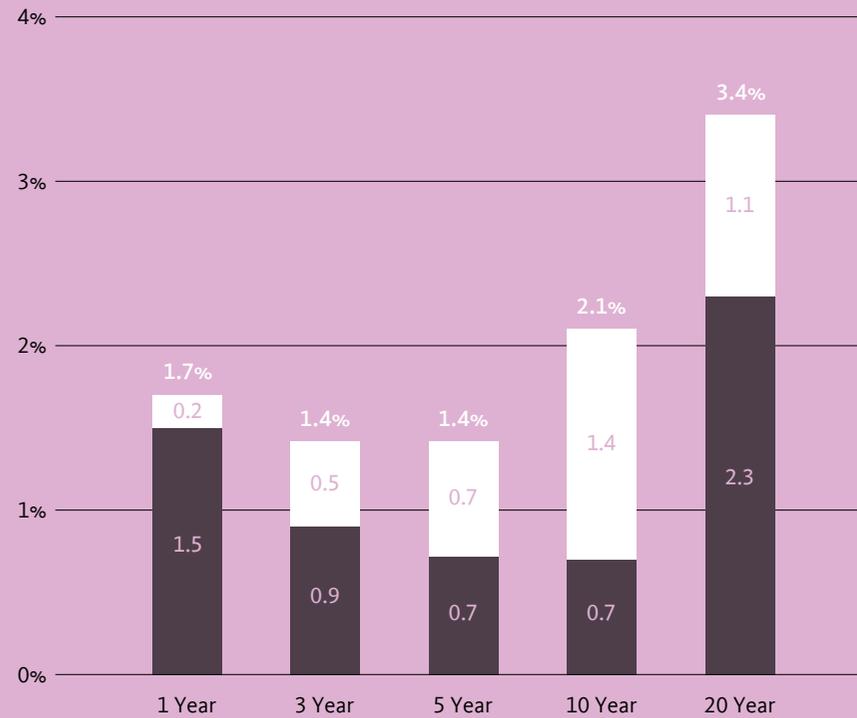


	Market Value in Billions (\$)
June 30, 2017	\$5.3B
Market Gains	\$0.1B
Value Added	\$0.0B
Net Cash Flow	(\$0.3B)
June 30, 2018	\$5.1B

# SHORT TERM INVESTMENT POOL

## ANNUALIZED NET RETURN

- Value Added
- Benchmark



# SHORT TERM INVESTMENT POOL

## DOLLAR VALUE ADDED

- Dollar value added is what we earned beyond what we would have earned if we were passively invested in the market.



# WORKING CAPITAL POLICY BENCHMARKS

	Policy Benchmark Component	Target	Minimum	Maximum
<b>Total Return</b>				
Growth	MSCI All Country World Index IMI Tobacco Free (Net)	35.0%	30.0%	40.0%
Income	Barclays US Aggregate Index	50.0%	45.0%	55.0%
<b>Other Investments</b>				
Absolute Return	HFRX Absolute Return Index	15.0%	5.0%	25.0%
<b>Short Term</b>				
Fixed Income	Weighted Average of Income Return on a Constant Maturity Two-Year US Treasury Note and the Return on US 30-Day Treasury Bills	100.0%	100.0%	100.0%



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## CAPTIVE INSURANCE

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UC's Fiat Lux Risk and Insurance Company is the largest university captive insurance program in the country.

As an incorporated and licensed insurance company, Fiat Lux provides the university a unique mechanism with which to finance UC's systemwide risks. It also allows UC the ability to capture underwriting profits and corresponding investment income that would normally be retained by traditional insurance companies by becoming a risk-bearing insurer itself. While the captive insurance company is a separate legal entity subject to corporate formalities, its owner (UC Regents) and the Fiat Lux Board oversee the captive's major operations, including underwriting, claims management, policy form and investments.

Fiat Lux started in 2012 with just five lines of coverage for \$25 million of premium. Today, it now purchases a majority of the insurance to cover the University's risks systemwide, writing more than 30 lines of coverage with more than a billion in assets. This is quite a change from how the university used to purchase coverage. Until Fiat Lux, UC purchased insurance more traditionally through "retail" brokers; now Fiat Lux purchases reinsurance directly from the markets (wholesale), which increases UC's capacity and reduces its expense.

Though this was only our second year working with Fiat Lux, the partnership has shown early and robust results. The Captive Insurance Companies Association honored Fiat Lux with its 2017 Outstanding Captive Award for its creativity, growth and reputation.

Fiat Lux has also gained popularity right here at UC because of its near-immediate positive results: it's either saved premiums or created new annualized revenues of over \$25 million, with significant additional savings in development.

# CAPTIVE INSURANCE

**TOTAL ASSETS \$1.0B**  
**LIABILITIES \$0.9B**  
**NET POSITION \$0.1B**

# \$250M PREMIUM

## 30 TYPES OF INSURANCE COVERAGE

## UNDERWRITING DEDUCTIBLE REIMBURSEMENT POLICIES

**WORKERS  
COMPENSATION**

**LIABILITY**

- Medical Profession
- Employment Practice
- General
- Auto

**PROPERTY TERRORISM  
& CASUALTY**

**OTHER**

- Coverage
- Equipment
- Medical Stop Loss
- Construction
- Cybersecurity
- Fine Arts
- Fiduciary & Crime
- Education Abroad

# CAPTIVE INSURANCE HOW WE INVEST

## Policy Allocation

**65%**  
**INCOME**

**21%**  
**CASH**

**14%**  
**GROWTH**

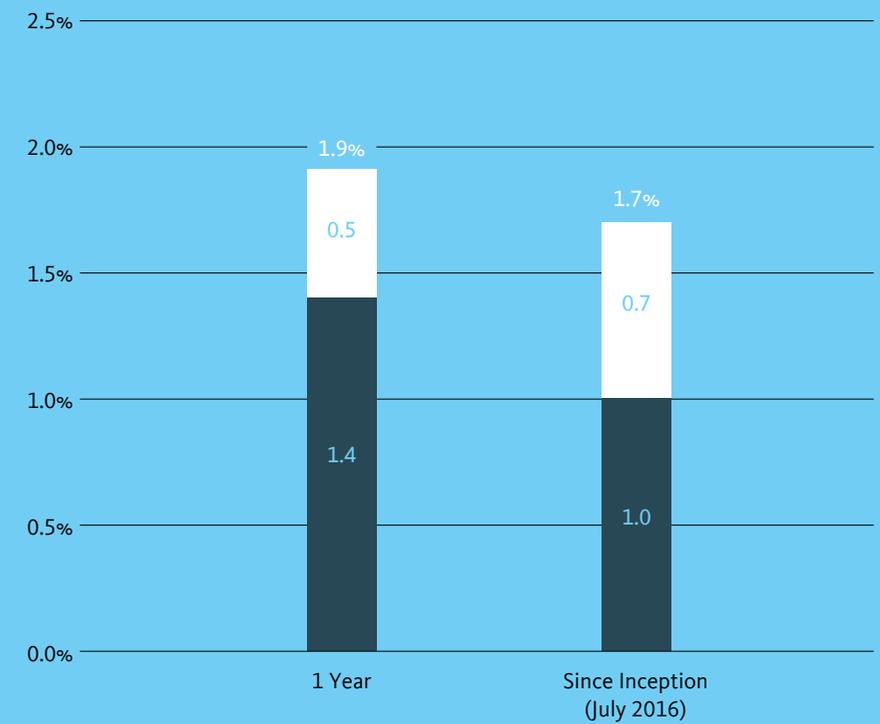
Fiscal Year Return  
2017-18

**1.9%**

2 Year Return  
Since Inception  
July 2016

**1.7%**

# CAPTIVE INSURANCE INVESTING FOR 2 YEARS



# CAPTIVE INSURANCE ASSET ALLOCATION

	Market Value in Billions (\$)	Portfolio Weight (%)	Policy Weight (%)	Overweight / (Underweight)
Growth	0.1	14.2	14.0	(0.2)
Income	0.6	69.3	65.0	4.3
Alternatives	0.0	0.0	0.0	0.0
Cash	0.2	16.5	21.0	(4.5)
<b>Total</b>	<b>\$0.9 Billion</b>	<b>100.0%</b>	<b>100.0%</b>	

# CAPTIVE INSURANCE POLICY BENCHMARKS

	Policy Benchmark Component	Target	Minimum	Maximum
<b>Total Return</b>				
Growth	MSCI All Country World Index IMI (Net)	14.0%	0.0%	30.0%
Income	Barclays US Intermediate Aggregate Index	65.0%	55.0%	100.0%
Alternatives		0.0%	0.0%	20.0%
Cash	Citigroup 3-Month T-Bill	21.0%	0.0%	30.0%

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**LESS ME**

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## **CONCLUSION**

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At UC Investments, we don't claim success when an individual team member meets a goal. Or when a particular product generates a healthy quarterly gain. It's only when UC as a whole performs at its peak that we know we've done our job well.

So as we reflect on the past year and look forward to what's next, one thing is clear: although we can't control the market, by working together and giving it everything we've got, we can provide the very best results for the University of California.

**MORE WE**

# COLLABORATE

## Investments

### **Jagdeep Singh Bachher**

Chief Investment Officer

### **Satish Ananthaswamy**

Managing Director,

Asia Investments

### **Susie Ardeshir**

Investment Director, Captive Insurance

### **John Beil**

Investment Director, Private Equity

### **Grahme (John) Deasy**

Investment Officer,

Fixed-Income/Credit Research

### **Edmond Fong**

Senior Managing Director,

Absolute Return

### **Sheng-Sheng Foo**

Investment Officer, Absolute Return

### **Gloria Gil**

Senior Managing Director,

Real Estate

### **Jessica Hans**

Investment Officer, Real Estate

### **Sam Kunz**

Managing Director,

Asset Allocation & Investment Strategy,

Global Passive Equities

### **Albert Lee**

Investment Officer, Real Assets

### **Craig Huie**

Investment Officer, Absolute Return

### **Tony Lo**

Investment Director,

Fixed-Income, Structured Products

### **Jia Luo**

Investment Officer, Public Equity

### **Marco Merz**

Director, Retirement Savings Program

### **Byron Ong**

Investment Officer,

Fixed-Income/Credit Research

### **John Ritter**

Managing Director, Real Assets

### **David Schroeder**

Senior Portfolio Manager,

Fixed-Income, Government Sector

### **Cay Hayne**

Director, Real Estate

### **Aaron Staines**

Portfolio Manager, Fixed-Income, STIP

### **Steven Serman**

Senior Managing Director, Fixed-Income

### **Ronnie Swinkels**

Director, Global Active Public Equity

### **Mike Swett**

Senior Portfolio Manager,

Fixed-Income, Credit Sector

### **Matt Webster**

Investment Officer, Private Equity

### **Sharon Zhang**

Director, Fixed-Income, Credit Research

## Investment Risk Management

### **Richard M Bookstaber**

Chief Risk Officer and Managing Director

### **William Dumas**

Investment Officer, Risk & Public Equity

### **David Klein**

Risk & Public Equity Analyst

### **Allen Kuo**

Risk Director

## Fellows

### **Niket Desai**

Investment Fellow,

Entrepreneur Capital

### **Kristopher Ostrander**

Investment Fellow, Private Equity

### **Imogen Rose-Smith**

Investment Fellow,

Sustainability & Diversity

### **Govinda Quish**

Investment Risk Fellow

## Cash & Liquidity Management

### **Philomel Pena**

Treasury Director

### **Ann Domagala**

Treasury Manager

### **Jeff Donahue**

Senior Treasury Analyst

### **Dave Dow**

Senior Treasury Analyst

### **Julia Lewis**

Accountant

### **Marc Young**

Treasury Compliance Specialist

## Administrative / Shared Services

### **Elizabeth Agbayani**

Administrative Officer

### **William Byrd**

Administrative Officer

### **Milkah Cunningham**

Administrative Officer

### **Ellen Hellman**

Executive Assistant to

Chief Investment Officer

### **Diori Johnson**

Investment Administration Manager

### **Rosario Mendoza**

Administrative Assistant

### **Yan-Ni Zhao**

Financial Services Analyst

## Operations / Investment Services

### **Arthur Guimaraes**

Chief Operating Officer

### **Larry Adkinson**

Senior Counsel, Office of General Counsel

### **Jim Castro**

Director,

Investment Transaction Services

### **Floyd Gazaway Jr.**

Accountant,

Investment Transaction Services

### **Brady Jewett**

Operations Analyst, Private Assets

### **Talin Wauchope**

Investment Data Analyst,

Data Management & Analytics

### **Trevor Woods**

Operations Manager, Private Assets

### **Albert Yong**

Director, Data Management & Analytics

### **Jack Zhu**

Operations Manager,

Public Assets

### **Mark MacDonald**

Investment Accountant,

Investment Transaction Services

### **Mark Mangilit**

Manager, Investment Compliance

& Operational Risk Management

### **Miguel Mendoza**

Operations Analyst, Private Assets

# ALUMNI

## Investments

Lindsey Adams  
Lynda Choi  
Kristina Chow  
John Cole  
Michelle Cucullu  
Tom Fischer  
Eduard van Gelderen  
Rudy Hobson  
Aileen Liu  
Tim Recker  
Gaurav Sood  
Melvin Stanton  
Paul Teng  
Randolph Wedding  
Chris Winiarz  
Julia Winterson  
Farhan Zamil

## Operations/Shared Services

Joanne Birdsall  
Nelson Chiu  
Amit Chu  
Pu Wang Fackler  
Feliciano Feller  
Paula Ferreira  
Claudia Green  
Brian Hagland  
Jan Kehoe  
Khaleelah Muhammad  
Sharon Murphy  
Bill Ryan  
Marjan Shomali  
Joey Tam  
Sitan Wang  
Leslie Watson  
Robert Yastishak  
JoAnne Yonemura

## Fellows

Alan Zhu  
Kevin Goldstein  
Sadia Saifuddin  
Eric Li  
Russell Ding  
Liming Wang  
Likeleli Seitlheko  
Tony Milgram  
Yujin Lee  
Rafael Gaiao  
Ashby McElveen  
Sachin Arora  
Alice Singh

# PARTNERS

## Public Equities

State Street  
Arrowstreet  
Brookfield  
Sands  
Sanders  
Adage  
Egerton  
Orbimed  
Ward Ferry  
Himalaya  
Alatus  
Dalton  
Aristotle  
Silchester  
FPA  
Baker Brothers  
Cartica  
Blue Harbour  
Macquarie

## Fixed Income

BlackRock  
Nomura  
Eaton Vance  
Kotak  
Owl Rock  
Goldman Sachs

## Real Assets

EMG  
Red Kite  
Molpus  
Amerra  
Trinitas

## Real Estate

Lionstone  
Brookfield  
Prudential  
Clarion  
TA Associates  
Emmes  
CIM  
Heitman  
Prologis  
Buchanan  
TriPacific  
A&E  
Cerberus  
JP Morgan  
Interstate  
KKR  
KSL  
Westbrook

## Absolute Return

AlbaCore  
Atalaya  
BFAM  
CQS  
Falcon Edge  
Key Square  
Napier Park  
Neuberger  
Berman  
Owl Rock  
York Capital

## Private Equity

Apollo  
Ares  
Arsenal Capital  
Berkshire Partners  
BlackRock  
Blackstone  
Bow Capital  
Certares  
Column Group  
EQT  
Fountainvest  
Further Global  
Genstar  
GGV  
Goldman Sachs  
H.I.G.  
JLL  
Khosla  
Landmark  
Madison Dearborn  
Main Street  
Advisors  
Olympus Partners  
Pine Brook  
RNT Associates  
Sequoia Capital  
Shamrock  
Stripes Group  
Sun Capital  
Sycamore  
Thoma Bravo  
TPG Capital  
Warburg Pincus  
Water Street

# REGENTS AND OFFICERS

## Appointed Regents

**Maria Anguiano**  
**Richard C. Blum**  
**Laphonza Butler**  
**Michael Cohen**  
**Gareth Elliot**  
**Cecilia Estolano**  
**Devon Graves**  
**Howard “Peter” Guber**  
**George Kieffer**  
**Sherry L. Lansing**  
**Richard Leib**  
**Hadi Makarechian**  
**Eloy Ortiz Oakley**  
**Lark Park**  
**John A. Pérez**  
**Richard Sherman**  
**Ellen Tauscher**  
**Charlene R. Zettel**

## Ex Officio Regents

**Darin Anderson**  
*President, Alumni Associations  
of the University of California*  
**Jerry Brown**  
*Governor of California*  
**Jason Morimoto**  
*Vice President, Alumni Associations  
of the University of California*  
**Janet Napolitano**  
*President of the University of California*  
**Gavin Newsom**  
*Lieutenant Governor of California*  
**Anthony Rendon**  
*Speaker of the Assembly*  
**Tom Torlakson**  
*State Superintendent of Public Instruction*

## Office of the President

**Tom Andriola**  
*Vice President & Chief Information Officer*  
**Jagdeep Singh Bachher**  
*Chief Investment Officer  
& Vice President, Investments*  
**Alexander Bustamante**  
*Senior Vice President,  
Chief Compliance & Audit Officer*  
**Nathan Brostrom**  
*Executive Vice President,  
Chief Financial Officer*  
**Michael Brown**  
*Provost & Executive Vice President,  
Academic Affairs*  
**Pamela Brown**  
*Vice President, Institutional  
Research & Academic Planning*  
**Kimberly S. Budil**  
*Vice President,  
Laboratory Management*  
**Dwayne B. Duckett**  
*Vice President, Human Resources*  
**Arthur Ellis**  
*Vice President,  
Research & Graduate Studies*  
**Christine Gulbranson**  
*Senior Vice President,  
Office of Innovation & Entrepreneurship*  
**Robin H. Holmes-Sullivan**  
*Vice President, Student Affairs*  
**Claire Holmes**  
*Interim Senior Vice President,  
Public Affairs*  
**Glenda Humiston**  
*Vice President of Agriculture  
& Natural Resources*  
**Janet Napolitano**  
*President of the University of California*  
**Rachael Nava**  
*Executive Vice President,  
Chief Operating Officer &  
Chief of Staff to the President*

## Office of the President

**Charles F. Robinson**  
*General Counsel &  
Vice President, Legal Affairs*  
**John D. “Jack” Stobo**  
*Executive Vice President, UC Health*

## Regents Designate

**Christine Simmons**  
*Treasurer, Alumni Associations  
of the University of California*  
**William Um**  
*Secretary, Alumni Associations  
of the University of California*  
**Hayley Weddle**  
*Student Regent Designate*

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**Jagdeep Singh Bachher**  
*Chief Investment Officer  
& Vice President, Investments*  
**Alexander Bustamante**  
*Senior Vice President,  
Chief Compliance and Audit Officer*  
**Charles F. Robinson**  
*General Counsel &  
Vice President, Legal Affairs*  
**Anne Shaw**  
*Secretary and Chief of Staff to the Regents*

## Faculty Representatives (Non-voting)

**Robert May**  
*Vice Chair, Academic Senate*  
**Shane White**  
*Chair, Academic Senate*

## Chancellors

**Gene D. Block** *Los Angeles*  
**George R. Blumenthal** *Santa Cruz*  
**Nicholas B. Dirks** *Berkeley*  
**Howard Gillman** *Irvine*  
**Sam Hawgood** *San Francisco*  
**Pradeep K. Khosla** *San Diego*  
**Dorothy Leland** *Merced*  
**Gary S. May** *Davis*  
**Henry T. Y. Yang** *Santa Barbara*  
**Kim Wilcox** *Riverside*

## Advisors

**Edward Greg Huang**  
*Student Advisor*  
**Sherry Main**  
*Staff Advisor*  
**Jason Valdry**  
*Staff Advisor*

## Investments Subcommittee

## Membership

**Darin Anderson**  
**Maria Anguiano** *Vice-chair*  
**Richard Sherman** *Chair*  
**Charlene R. Zettel**

## Ex Officio Members

**Hadi Makarechian**

## Advisory Members

**Christine Simmons**  
**William Um**  
**Robert May**  
**Sherry Main**

## Chancellors

**Sam Hawgood**  
**Pradeep K. Khosla**

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