EXECUTIVE COMMITTEE MEETING AGENDA

September 11, 2019
12:00 – 2:00 pm
Location: Alumni & Visitors Center, Johnson Board Room

I. Call to Order and Welcome
   Chair Susan Atherton

II. Consent Agenda
   a. Approval of April 4, 2019 Minutes
   Chair Susan Atherton
   b. Ratification of 2019-2020 Committee Appointments

III. UCR Update
     Chancellor Kim Wilcox

IV. Advancement Update
     VCUA Peter Hayashida

V. Committee Reports
   a. Audit
      Irv Hendrick, Chair
   b. Finance & Investment
      Matt Lyons, Chair

VI. Review of October 17, 2019 Meeting Schedule
     & Board Agenda
     Chair Susan Atherton

VII. Adjournment and Closing Remarks
     Chair Susan Atherton

Calendar Dates of Note

Chancellor’s Dinner – Saturday, October 19, 2019
Homecoming Kickoff – Saturday, November 16, 2019
School of Medicine Gala – Saturday, November 23, 2019
Watkins Society Brunch – March 14, 2020
Donors & Scholars Luncheon – May 2, 2020
Chancellor’s Associates Donor Reception – May 13, 2020
University of California, Riverside Foundation
Executive Committee Meeting
Thursday, April 4, 2019
Johnson Board Room

MINUTES

Attending:
Trustees constituting a quorum: Susan Atherton, Thomas Haider (via phone) Brian Hawley, Irv Hendrick, Sue Johnson, Matt Lyons (via phone), Mary Schuler, Ron Stovitz, Chancellor Kim Wilcox, Linda Williams, Kathy Wright

UCR leadership: Peter Hayashida

UCR staff: LaDonna Ardary, Pat Kohlmeier, Kim McDade (via phone), Hieu Nguyen, Essam Ulhaq, Jan Wildman

Chair Susan Atherton called the meeting to order at 12:04 p.m.

Action Item: Approval of Minutes
On the motion and unanimous vote, the January 10, 2019 Executive Committee meeting minutes were approved.

Action Item: Approval of New Foundation Officer
On the motion and unanimous vote, the appointment of Essam Ulhaq as the Associate Treasurer for the UC Riverside Foundation was approved.

Action Item: Approval of 2019-2020 UCRF Operating Budget
On the motion and unanimous vote, the 2019-2020 UCR Foundation operating budget was approved.

Finance & Investment Committee Report – Chair Matt Lyons
As of December 31, 2018, the UCRF endowment value was $152 million. The endowment value is still down 5% below for the year. The market is improving, and the endowment value has increased by 2% this past quarter. At the last Finance & Investment Committee meeting, items discussed included the investment policy asset allocation plan, asset allocation changes, and spending policy.

Action Item: Change to the Investment Policy and Guidelines for the Endowed Funds – Permitted Ranges in Asset Allocation Plan

Proposed Recommendation:
Global Public Equity investments shall be 40-75%, fixed income investments (including cash) shall be 0-50%, and alternative investments shall be 0-50% of the endowment assets. Pursuant to V.B., this paragraph A. may not be revised without approval of the Board of Trustees.

On the motion and unanimous vote, the recommended change to the permitted ranges in asset allocation plan was approved and will be presented to the UCR Foundation Board of Trustees for a final vote at the May 8, 2019 board meeting.
**Action Item: Change to the Investment Policy and Guidelines for the Endowed Funds — Asset Allocation Policy Targets**

**Proposed Recommendation:**

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Policy (%)</th>
<th>Permitted Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Public Equity</td>
<td>60%</td>
<td>50 – 100%</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>0%</td>
<td>0-1%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>10%</td>
<td>0-30%</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>15%</td>
<td>0-30%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>15%</td>
<td>0-15%</td>
</tr>
<tr>
<td>Cash</td>
<td>0%</td>
<td>0-25%</td>
</tr>
</tbody>
</table>

On the motion and unanimous vote, the change to the asset allocation policy targets was approved.

**Action Item: Approval of Recommendation to maintain the current spending policy in the Investment and Guidelines for the Endowed Funds**

On the motion and unanimous vote, the current spending policy was reaffirmed. The UCR Foundation Board of Trustees will be asked to ratify this action at the May 8, 2019 board meeting.

**Chair Report — Chair Susan Atherton**

Chair Atherton reported that this year’s UCR Advocacy Day had the largest attendance ever. The priority issue was funding for the School of Medicine. Advocacy Committee Chair Brian Hawley stated the meetings were productive and legislators did not question the need for the School of Medicine.

Chair Atherton reported that she has been attending public portions of the Regents meetings that deal with student basic needs. The Basic Needs Committee was formed to focus on this issue and is working on action models based on prevention, sustainable institutionalization, advocacy and research. The committee has created the largest dataset on food insecurity among college students in the nation. Governor Newsom has set aside $15 million to help augment the UC budget to address student hunger and housing needs. Surveys by UC show 40% of students across the system are characterized as having "low" or "very low" food security and 5% are homeless (2016). A full recommendation based on the data set for basic needs is expected to be presented at the next UC Regents meeting.

**UCR Update — Chancellor Wilcox**

Chancellor Wilcox agreed that the UCR Advocacy day meetings was very impactful and thanked the Trustees for attending. As the most tuition dependent campus in the system, State aid is 40% of UCR’s budget. The Regents’ vote to not increase tuition again this year has a tremendous impact on UCR’s budget. UCR will need to manage the 1.4% shortage of $14 million dollars next year. On a recent visit to Washington D.C., the Chancellor met with the new director of Smithsonian National Museum of American History, Anthea M. Hartig, who received her doctorate and master’s degrees in history from UCR. Givaudan, a Swiss flavoring company donated $3.5 million to tent the Citrus Variety Collection to protect it from the citrus greening disease. This gift will name the Givaudan Citrus Variety Collection for a ten-year period. UCR is in the early stages of a search for the new vice-chancellor for Research and Economic Development (RED). The Chancellor recently had a very positive dinner meeting with leadership from the Times Higher Education Group (London), including their chief executive officer, chief data officer, and their editor. Construction of Dundee Glasgow, the new 850-bed student residence and
830-seat dining hall, is on-going and is expected to be completed in fall 2020. Construction is underway for the outdoor art installation titled "Arts Mall: Roy McMakin Change Things, Things Change." The art structure is located in front of the Arts Building and construction is expected to be completed by mid-June. Journalist Maria Hinolosa will deliver the 50th anniversary Hays Press-Enterprise lecture on April 9, 2019. There is a town hall scheduled for April 16, 2019 to launch a new campus strategic planning process.

Advancement Update – Vice Chancellor Peter Hayashida

Vice Chancellor Hayashida advised the committee that the Governor’s proposed May Revision of the 2019-2020 budget is expected to be released on May 10, 2019. It’s been a busy travel season; the most recent Living the Promise alumni regional receptions were held in New York and Boston and upcoming receptions are scheduled in Portland and Seattle. Plans for the 2019-2020 alumni regional receptions are already underway. Several elected officials attended the alumni regional reception in Sacramento that was held in conjunction with UCR Advocacy Day. The UCR Communications team is scheduled to release 4,000 new websites on July 1, 2019. The next project for the UCR Communications team is visual identity (colors, logos, fonts). Intercollegiate Athletics will be the first department to receive a complete branding refresh. Vice Chancellor Hayashida shared information about the recent gifts from Givaudan and the San Manuel Band of Mission Indians. Kate Beach was selected as the new Director of Development for Student Success and will assist Assistant Vice Chancellor Marie Schultz with the Student Success Campaign. The Provost is the academic leader of the campaign.

Committee Reports

Audit Committee – Chair Linda Williams

Chair Williams reported that there is a meeting scheduled for the week of April 8th to review the Foundation’s 990 tax form. The 990 will be filed before the May 15th deadline.

Nominations Committee – Chair Ron Stovitz

Chair Stovitz reported on the February 20, 2019 Nominations Committee meeting. The Committee discussed the re-election of 15 eligible Trustees and considered 16 new nominees. Thirteen of the 15 Trustees eligible for re-election have agreed to serve another term. Twelve new nominees were recommended to move forward to the Board. All 12 nominees have been contacted and five have agreed to be included on the slate of 2019-2021 nominees to be voted on at the May board meeting. There are currently 37 elected Trustees; five Trustees will term off the board on 6/30/2019. The UCRF Bylaws currently state that the UCR Foundation shall have no fewer than forty (40) and no more than eighty (80) elected Trustees. Primarily due to term limits: the number of Trustees has fallen below the minimum requirement of forty (40) Trustees each year since July 1, 2017. A stop-gap revision was previously approved to add a sentence to the Bylaws that reads "Notwithstanding the first sentence of this section, for the period between July 1, 2017 and June 30, 2019, there may be fewer than forty (40) elected Trustees." Trustee term limits and higher Trustee expectations have resulted in a more selective process for adding new Trustees. At the suggestion of the Nominations Committee, the Executive Committee discussed revising the Bylaws to reduce the minimum and maximum number of Trustees.

Action Item: Revision to Article III, Section 1.a. of the UCRF Bylaws

On the motion and unanimous vote, the Executive Committee recommends revising Article III, Section 1.a. of the Bylaws to read “There shall be no fewer than twenty-five (25) and no more than fifty (50) elected Trustees.” The proposed revision will be recommended to the UCR Foundation Board of Trustees for ratification at the May 8, 2019 meeting.
Action Item: Approve Trustee Emeritus status for Trustee and Regent Emeritus Bruce Varner
On the motion and unanimous vote, emeritus status for Trustee and Regent Emeritus Bruce Varner was approved; the recommendation will be presented to the UCR Foundation Board of Trustees for ratification at the May 8, 2019 meeting.

Review of May 8, 2019 Board Agenda and Meeting Schedule
Chair Atherton reviewed the May 8, 2019 Agenda and meeting schedule.

Adjournment and Closing – Chair Susan Atherton
The meeting was adjourned at 1:40 p.m.
Committee Assignments
2019 -20

Executive Committee
Susan Atherton, Chair
Darin Anderson, Immediate Past Chair
Erik Anderson, Treasurer
Wally Bakare, Member at-large
Allison Campbell, Chair, Stewardship Committee
Tom Haider, Co-Chair, Campaign Committee
Brian Hawley, Chair-Elect & Chair, Advocacy Committee
Irv Hendrick, Chair, Audit Committee
Sue Johnson, Co-Chair, Campaign Committee
Matt Lyons, Chair, Finance & Investment Committee
Ron Stovitz, Chair, Nominations Committee
Chancellor Kim Wilcox, Ex-Officio Member

Advocacy Committee
Brian Hawley, Chair
Eddie Allen
Darin Anderson
Susan Atherton
Kristin Crellin
Janet Davis
Dallas Holmes
Sue Johnson
Jeff Klein
Bob Krieger
James Lin
Agenor Mafra-Neto
Carol Stratford

Audit Committee
Irv Hendrick, Chair
Beverly Bailey
Gordon Bourns
Nora Hackett
Brian Hawley
Wing Lau
Judy Posnikoff

Campaign Committee (*denotes Non-Trustee Member)
Sue Johnson, Co-Chair
Tom Haider, Co-Chair
Darin Anderson
Susan Atherton
Rochelle Campbell
Salma Haider*
Elizabeth Leonard*
John Leonard
James Lin
Byron Pollitt*
Teri Pollitt*
Mark Rubin

Finance & Investment Committee
Matt Lyons, Chair
Darin Anderson
Erik Anderson
Susan Atherton
Glen Grayman
Tim Greenleaf
David Hadley
John Leonard
Judy Posnikoff

Nominations Committee
Ron Stovitz, Chair
Eddie Allen
Darin Anderson
Susan Atherton
Brian Hawley
Sue Johnson
Walter “Buzz” Stewart
David Tsai
Kathy Wright

Stewardship Committee
Allison Campbell, Chair
Rochelle Campbell
Bill Dahling
Irv Hendrick
James Merino
Mary Schuler
Ron Stovitz
Kathy Wright
MEETINGS AND ACTIONS SINCE LAST EXECUTIVE COMMITTEE MEETING

- **Audit Committee Meeting – April 8, 2019**
  
  - **Items Discussed:** Presentation of the draft UCR Foundation FYE18 Form 990 – IRS Information Return by the KPMG tax services team. Presentation of the FYE19 External Financial Audit Plan by PWC Audit Team.
  
  - **Action Items Approved:** Approved the UCR Foundation FYE18 Form 990 as presented. Kim and Essam to research sister UC Foundations and UCOP to get examples of written whistleblower and document retention/destruction policies that can be used as reference to implement for the UCR Foundation.
  
  - **Action Taken:** The UCR Foundation FYE18 Form 990 Form was distributed to each member of the Board of Trustees and was filed with the IRS by the May 15, 2019 deadline.

- **Audit Committee Meet and Greet – August 29, 2019**
  
  - **Meet and Greet:** Informal gathering of the audit committee was held to introduce members of the committee as many are new to the Committee this year.

OTHER INFORMATION

- The public inspection copy of the UCR Foundation FYE18 Form 990 is available on the UCR Foundation website (http://foundation.ucr.edu).

UPCOMING MEETING: September 16, 2019

COMMITTEE CHAIR, MEMBERS, AND OTHER REGULAR ATTENDEES

Voting members: Irv Hendrick (Chair), Beverly Bailey, Gordon Bourns, Nora Hackett, Brian Hawley, Wing Lau, Judith Posnikoff

Other regular attendees: Kim McDade, Essam Ulhaq

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1 April 4, 2019
DRAFT Pending Approval by the Audit Committee

MINUTES
UC Riverside Foundation Board of Trustees
Audit Committee Meeting (via Conference Call)
April 8, 2019 2:00pm

Participants: Voting Members: Linda Williams (Chair), Gordon Bourns, Tim Greenleaf, Brian Hawley, James Lin;
KPMG – Chad Franks; PwC - Christopher Coelho, Tracee Jones, Breanne St. Martin; Staff - Kim McDade; Guest - Essam Ulhaq

I. Call to Order – Linda Williams

Trustee Linda Williams called the meeting to order at 2:00 p.m.

II. Approval of September 25, 2018 Meeting Minutes

After determining there were no comments or questions, Linda Williams called for a motion to approve the minutes of the September 25, 2018 Audit Committee meeting. A motion to approve the minutes was made.

Motion: Brian Hawley; Second: Tim Greenleaf. The minutes were unanimously approved as presented.

III. Presentation of Draft UCR Foundation FYE18 Form 990 by KPMG

The draft Form 990 and 990-T were provided to committee members in advance of the meeting.

KPMG Tax Partner Chad Franks presented a high-level overview of the draft UCR Foundation FYE18 Form 990 and Form 990-T to the Committee. As the Form 990 is a public document, Chad discussed the public relations and IRS risk perspectives and noted that there were no new areas of non-compliance.

The UCR Foundation board is majority independent, which is a sign of good corporate governance as mentioned by Chad. The carryforward loss of approximately $18K, which has accumulated over the last few years, can be spread out over 20 years. Any new losses starting this current fiscal year, can have an indefinite carryforward and there is no maximum per year. A significant change in the year over year filing was in the area of securities, which saw an increase of $9.4M. There were no new programmatic activities, no new schedules, and no areas of non-compliance nor has there been in recent memory.

While reviewing page 6 of the Form 990, Chad noted that the Foundation has strong governance practices. Although not required, Chad recommended getting two particular items on page 6 in place to strengthen governance practices: written whistleblower policy and written document retention and destruction policy. After discussing, the committee recommended getting these written policies in place. A motion was made to look into the feasibility of creating written whistleblower and document retention and destruction policies.

Motion: Tim Greenleaf; Second: Gordon Bourns. The motion was unanimously approved.
Action Item: Kim and Essam to research sister UC Foundations and UCOP to get examples of their policies that can be used as reference to implement for the UCR Foundation.

Chad continued the review of Form 990 and confirmed there was no new type of revenue to report and that the tax reform had no significant impact on the organization. Chad also mentioned that 93% of funds are spent on programmatic activities, which reflects positively with little amount spent on overhead expenses.

Chad discussed alternative investments ownership and recommended keeping it below 2% per fund. If ownership will exceed the 2% per fund, Chad recommended reaching out to his team as there would be implications of additional reporting on the consolidated statement and could lead to more taxes on the Form 990-T.

After reviewing the Form 990, a motion was made to approve the UCR Foundation FYE18 Form 990 as presented and to have staff send the final draft of the Form to the entire Board before filing the information return:

Motion: Gordon Bourns; Second: James Lin. The Form 990 and Form 990-T unanimously approved as presented.

Chad Franks left the call at 2:24pm.

IV. Presentation of the FYE19 External Financial Audit Plan by PWC Audit Team

Christopher Coelho, Tracee Jones and Breanne St. Martin from the PwC audit services team joined the call at 2:30pm where they presented and discussed the UCR Foundation FYE19 external financial audit plan with the Committee.

Christopher kicked off the presentation and discussed that the audit period is for the period ending June 30, 2019 and that every annual audit is started at square one with a top-down, risk-based approach. When they identify risks, they prioritize them as significant, elevated or normal risk. The significant risks identified for the foundation are:

1) Management override of controls
2) Fraud in revenue recognition (contribution revenue)
3) Fair value of investment securities
   a. For alternative investments, PwC does third party confirmations and other due diligence that ensures the valuation is accurate and without question.

Breanne discussed that they will also be testing for fraud and will be asking various members and staff if they are aware of any fraud and to communicate it to them. They will be mainly reviewing misstatements arising from fraudulent financial reporting.

Tracee ended the presentation by clarifying expectation and maintained that they would remain communicative, provide constructive feedback and commit to getting things done on time. They have made enhancements to the technology they use to provide more efficient service.

Tim asked Tracee if there had been any issues with our audits in previous years and she mentioned that there have not been any in the last couple years.
Tracee was asked about written policies referenced during the Form 990 review and she confirmed that it would be best practice to reach out to sister UC Foundations and UCOP for their document retention and whistleblower policies.

VI. Adjournment

As there was no further business to discuss, the meeting was adjourned at 2:58 p.m.
UC Riverside Foundation  
Board of Trustees  
Executive Committee Meeting  
September 11, 2019

FINANCE AND INVESTMENT COMMITTEE REPORT

MEETINGS AND ACTIONS SINCE LAST EXECUTIVE COMMITTEE MEETING

- **Investment Committee Meeting – June 19, 2019**  

- **Presentation by UCOP Chief Investment Office Staff to Investment Committee – August 22, 2019**  
  - Presentation by the UC Chief Investment Office staff: reviewing CIO oversight, philosophy, and investment performance over the last 5 years.

- **Investment Committee Meeting – September 10, 2019**  

OTHER INFORMATION – ENDOWMENT

- **Values**
  
  - **Fiscal year-to-date @ June 30, 2019:**
    - $175.9 million, up $7.4M (4.4%) for fiscal year 2019
    - For the month, additions totaled $3.6M; investment gain was $2.2M
    - For fiscal year 2019, additions totaled $11.3M; investment loss was $3.9M
      - For the 4th quarter, additions totaled $8.5M; investment loss was $183K
      - For the 3rd quarter, additions totaled $642K; investment gain was $15.2M
      - For the 2nd quarter, additions totaled $1.2M; investment loss was $21.6M
      - For the 1st quarter, additions totaled $1.0M; investment gain was $2.6M

- **Performance**
  
  - **Period Ended June 30, 2019**
    - The investment return was 1.2% for fiscal year 2019

- **Economic and Market Overview (September 2019) – Attached**

**UPCOMING MEETING:** December 5, 2019

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1 April 4, 2019
COMMITTEE CHAIR, MEMBERS, AND OTHER REGULAR ATTENDEES
Voting Members – Matt Lyons (Chair), Erik Anderson (UCRF Treasurer), Timothy Greenleaf, Judith
Posnikoff, Glen Grayman, Darin Anderson, John Leonard, Walter “Buzz” Stewart, Susan Atherton (ex-
officio)
Other regular attendees – Peter Hayashida, Kim McDade, Essam Ulhaq
DRAFT Pending Approval by the Finance and Investment Committee

MINUTES
UC Riverside Foundation Board of Trustees
Finance and Investment Committee Meeting

Wednesday, June 19, 2019
1127 Hinderaker Hall
University of California, Riverside

Present: Voting Members – Matt Lyons (Chair), Erik Anderson (UCRF Treasurer), Timothy Greenleaf, Judith Posnikoff, Glen Grayman, Darin Anderson; Non-Voting Members – Peter Hayashida, Hieu Nguyen, Kim McDade, Essam Ulhaq; Investment Consultants – Andrew Price, Karin Longhurst

Unable to Attend: Voting Members – Susan Atherton (ex-officio), John Leonard, Walter “Buzz” Stewart

I. Call to Order – Matt Lyons

Trustee Matt Lyons called the meeting to order at 12:00 p.m.

II. Approval of March 14, 2019 Meeting Minutes

After determining there were no comments or questions, Matt Lyons called for a motion to approve the minutes of the March 14, 2019 Finance and Investment Committee. A motion to approve the minutes was made: Motion: Judith Posnikoff; Second: Glen Grayman. The minutes were unanimously approved as presented.

III. Endowment

Capital Markets Overview – Graystone advisors, Andrew Price and Karin Longhurst reviewed highlights of the capital markets overview information, which was provided to the Committee in advance of the meeting. Andrew stated that economic and earnings growth are still deteriorating with inventories bloated and markets focusing on trade risks due to the trade war. The Federal Reserve did not move on interest rates, but there could be two possible two rate cuts by 2020. Markets are favoring value over growth and favoring international equities over domestic equities, since they feel domestic equities are overvalued. Andrew also stated that there is an anticipation of an earnings recession, potentially 5% year over year, but it may be short lived. Graystone still favors stocks, in particular international stocks, over bonds since bonds are unattractive.

Investment Results – The March 31, 2019 quarterly investment report and the April 30, 2019 investment report were provided to members in advance of the meeting. Andrew Price discussed the UC Riverside Foundation investment results for the period ending April 30, 2019. The market value of the UC Riverside Foundation began the first quarter of calendar year 2019 with $152.1M and ended on April 30, 2019 with $178.2M. Graystone added Polen, Aristotle, Bahl and Gaynor Delaware, Silvercrest, and Thornburg to our portfolio. The asset allocation is now 76% public equities, 9% fixed income and 14% alternatives. After the change in fund managers and adding passive strategies, we have performed well and reduced costs. For example, Polen Large Cap gained
8% since inception. Andrew also provided some background regarding some of the funds like Aristotle, who looks to buy companies that appear underpriced less than their intrinsic value and Bahl and Gaynor, which focuses on companies with dividends. Graystone is encouraged by the hedge funds recent performance. Hamilton Lane has been deploying capital to mitigate the J-curve effect and that has worked out at this point. Graystone anticipates ~$8M in capital calls for Hamilton Lane within 1 year.

IV. Manager Expense and Analysis Summary

Karin Longhurst and Andrew Price reviewed the Manager Expense and Analysis Summary information which was provided to the Committee in advance of the meeting. Karin noted that the Manager Blended Expense reflected as .50% should be .57% with the addition of alternatives. A revised breakdown will be sent after the meeting. The Graystone Consulting Expense is .16% which represents a .73% total expense. The total expense was .85%, but Graystone has been able to bring it down to .73%, after changes like the transition from William Blair (1.14%) to Thornburg (.38%). For the separate accounts, they have also negotiated lower fees.

V. Spending Cash Raise Summary

The FYE19 Endowment Spending Estimated was provided to the Committee before the meeting for review. The spending policy remains at 4% of the total endowment with .5% cost recovery fee assessed from the gross spending. The estimated gross spending for FYE19 is $6.3 million. Andrew and Karin presented their recommendation for raising cash to fund the spending. The Committee discussed the proposed spending withdrawal and proposed method to raise the cash needed.

Andrew Price recommended $8M capital investment to the Blackstone REIT. This would help accomplish the Committee’s goals to reduce volatility and variability at the same time. The recommendation by Graystone is to put $8M immediately in the fund and get monthly income from the properties they own. The liquidity of the REIT works as follows; there is a 1-year soft lock up; after 12 months, there would be a charge for taking out funds. The annualized rate of return is 10% with a standard deviation of 1. December was -.17, but the fund is expected to have more stability. The monthly advisor fee is 1.23%, which is lower than private equity funds and is not unusually high. Blackstone has recently bought warehouses for the GLP group of Singapore and is adding more income by negotiating lease rates. This fund is equity real estate that is already developed.

Committee member Erik Anderson asked how this fund compares to the UC Real Estate fund. Since Graystone did not have details of the UC Real Estate fund, the committee members recommended conducting a comparison before investment in Blackstone REIT.

Action Item: Issam and Kim to reach out to the UCOP CIO office to obtain details about the UC Real Estate investment fund and provide the details to Graystone as a comparison to the Blackstone REIT.

VI. Investment Policy Exhibit Updates

The committee recommended an update to the investment policy’s Exhibit 1. A motion to approve Exhibit 1 was made:

Motion: Matt Lyons; Second: Erik Anderson. The motion was unanimously approved.
VII. Investment Manager Parameters Proposed Changes

The committee recommended an update to the investment parameters as approved at the Board of Trustees meeting on May 8, 2019. A motion to approve the investment manager parameters was made:

Motion: Matt Lyons; Second: Erik Anderson. The motion was unanimously approved.

VIII. Other Business

Kim McDade briefly discussed the Moreno Valley Property Sale memorialization which was summarized in the materials provided to the Committee in advance of the meeting. She also mentioned the charter for the student managed investment fund is being finalized. In addition, she shared that the long-term calendar of meetings for next fiscal year will be created in July and calendar invites will be sent out.

IX. Investment Manager Discussion

Matt Lyons started the discussion about choosing an investment manager. He discussed the investment forum held at UCLA that Judy, Darin, Kim, and he attended in April in which the UC Chief Investment Office (CIO) team presented for almost a day and a half about their results and how they function. Matt was extremely impressed by their team. Everything was well presented and their results have been very good. Matt recalled that the reason why the Committee did not choose the UC CIO in the previous investment manager selection process was because the CIO wanted all of the Foundation’s endowment funds or nothing. This mindset has changed over the last few years. The current issues with Graystone include poor administrative support related to reporting and higher fees. Also, Matt mentioned that the Committee should conduct an RFP every 2-3 years. Graystone has, however, had better results over the last 3 years than the UC. Matt also mentioned that the Committee should consider support of the UC and it’s UC programs. Matt and the committee would like the UC CIO team to present to the Finance and Investment Committee and consider a vote to make a change to UC CIO for investment management. Matt indicated that we should switch even though he is a big supporter of Graystone.

Tim Greenleaf asked what we would do with the private equity. Matt responded that UC Santa Barbara was able to keep theirs when they transitioned investments to UC CIO and we’d anticipate the ability to do the same thing. With illiquid investments, we would anticipate Graystone would hold those investments until they are liquid.

Matt also mentioned that the UC had lower Alternatives pricing and vast options.

Peter Hayashida shared that that Jagdeep, UC Chief Investment Officer, rebuilt the entire team and almost every campus has some portion of their endowment invested in the UC General Endowment Pool.

Darin Anderson stated that we need confidence in the vendor we choose and to select a vendor who has the best return over time. When we chose Graystone, they had the lowest fees, but have performed average. Darin has a lot of confidence in Jagdeep’s team and likes how they are low cost providers. Jagdeep’s team has the best players around and they will bend over backwards to work with us.
**Action Item:** It was agreed by the committee members that we would hold off on the Blackstone REIT and Matt, Darin, and Kim would get on a call with Jagdeep to discuss the Blackstone REIT and what alternative investments they have. The committee would also meet with the UC CIO team during the next scheduled committee meeting, or earlier, to formally meet and present to the committee.

**VI. Adjournment**

As there was no further business to discuss, the meeting was adjourned at 1:44 p.m.
Back to Nature

It’s been nearly three decades since my first visit to Yosemite. Since then, I’ve been fortunate to experience more than 20 of these treasured national parks. Late last month, my wife and I returned to Yosemite to share the thrill of climbing Half Dome with our sons, just like we had done together 28 years ago. A week in the mountains, disconnected from the internet, can affect your perspective about a lot of things, including the markets. Without the daily noise and chatter, I was able to reflect a bit on our investment thesis, evaluate its accuracy and determine whether it remains on track.

The bottom line is that I have more conviction in our view that financial markets remain held back by slowing growth and the limited ability of central banks to stop the deteriorating business cycle in the US and abroad. However, upon my return from the peace and quiet, it seems the popular narrative remains to blame trade tensions and/or the Federal Reserve for all the negative price action we have been getting from stocks and the strength in bonds for the past year.

In my view, much of the market commentary like this misses the real issue: The business cycle is coming to an end as corporate margins and profits roll over. It’s the natural progression that must run its course, just like the glaciers that cut Yosemite’s beautiful mountains and valleys. Recessions are the natural way to remove excesses in the real economy. If you don’t let nature run its course, even worse outcomes are likely to occur as evidenced by the financial crisis experienced 10 years ago. In addition to the blame game, there does seem to be growing support for more fiscal rather than monetary policy—something we have been advocating for years.

Today, with so much political partisanship, more fiscal legislation looks quite unlikely, especially going into an election year—unless we have a recession. In that case, there will be enough pressure on Congress to enact more policy that will help the average American, like an infrastructure bill or more tax breaks for the middle class. A US recession also would likely motivate other large countries to enact fiscal policy.

Therefore, we shouldn’t fear a recession. Just like thinning out an overgrown forest can prevent damaging wildfires, a recession may be exactly what we need to avoid a real crisis and find the next avenue of sustainable growth. With an economic recession now looking more likely, we continue to recommend patience with one’s investments. As a reminder, we think the markets have already discounted 75% of the recession risk, but we prefer to wait for the consensus to actually acknowledge it more fully. Let nature take its course before positioning portfolios for the next growth cycle.
Don't Hold Your Breath on Proactive Fiscal Stimulus

CHETAN AHYA
Chief Economist and Global Head of Economics
Morgan Stanley & Co.

Recent reports have indicated that China, Germany and the US could be considering new fiscal stimulus measures. China may raise local government bond issuance to accelerate infrastructure spending. Germany is possibly considering steps to potentially run a budget deficit for the first time in years and the US may be weighing a payroll tax cut.

TOUGH CHALLENGES. Structural and cyclical challenges argue for fiscal policy action. It's clear that monetary easing alone won't reverse deteriorating global growth. Structurally, weaker demographics, elevated debt and disinflationary pressures are drugs (see chart). Declining natural interest rates show that monetary policy by itself is not enough to stimulate demand and lift inflation expectations. During the past 10 years, inflation in developed economies has averaged 1.2%, well below the central banks' 2.0% goal.

Cyclical developments have made matters worse. Trade uncertainty is pushing global growth to a post-crisis low. Slower growth has sharpened the focus on liquidity-trap challenges—which are longstanding in Europe and Japan—and raises questions about monetary easing's efficacy. Case in point: The G4 policy rate is 0.9%, and the corresponding 10-year government bond yield is 0.5%. We've been arguing that monetary policy can't drive a recovery as long as trade uncertainty stifles private sector confidence and demand.

REACTIVE POLICY. In the current cyclical downturn, monetary and fiscal policy have largely been reactive. Furthermore, political and legal constraints leave little room for aggressive fiscal action. While some fiscal stimulus is under way, we see limited further expansion next year.

In Germany, we think policymakers will announce additional stimulus, mostly in response to recessionary conditions. Germany's constitution requires a nearly balanced structural budget through the cycle. Only in the case of a severe recession is a deficit possible, provided there's a binding amortization plan to reduce the extra borrowing, and only with an absolute majority in parliament. Our expectation for a larger fiscal boost would probably increase if growth was to slow more than we forecast. Rather than proactive and swift, we believe that any additional stimulus from Germany will likely be reactive and gradual.

HURDLES IN THE US. Similarly, in the US, the administration faces hurdles. Our US economics team figures that cutting the payroll tax to 4.0% from 6.2% would boost disposable income by $250 billion—but a tax cut needs congressional support, and the election season makes that a challenge. Hence, bipartisan agreement appears unlikely until we see a severe growth slowdown.

China, however, could implement meaningful easing. Policymakers have already delivered a $2.5 trillion stimulus plan, which includes tax cuts and a reduction in the corporate sector's social security burden. Unfortunately, weak corporate confidence means that most of the benefits will be saved. The government could preemptively announce additional easing via direct public spending, but it may renew financial stability concerns.

FURTHER EASING. We expect China will enact further fiscal easing only if downward pressures persist. Given continuing data deterioration, Robin Xing, our chief China economist, expects $1 trillion to $1.25 trillion in infrastructure spending. However, with trade uncertainty weighing on external demand and private investment, and policymakers maintaining a tight grip on property lending, we estimate overall GDP growth to remain relatively weak at around 6%.

All told, we expect global growth to slow further, to 2.8% year over year in the fourth quarter, and remain below 3% in 2020's first half as the slowdown spreads. Continued trade tensions, combined with reactive monetary and fiscal policy, mean that the risk of tighter financial conditions—and a resultant global recession—is high and rising.
Getting Real

LISA SHALET
Chief Investment Officer
Head of Wealth Management Investment Resources
Morgan Stanley Wealth Management

Sometimes the most important thing for investors to have is an intermediate-term perspective, of say six to 12 months. By that lens, it may be easier to contextualize the larger narrative of where markets are and what they are telling us. The Global Investment Committee has maintained a conservative stance toward this year’s stock market rally, maintaining a year-end target price of 2,800 for the S&P 500; we also added long-term bonds in April. Thus, the recent market pullback does not make us cautious.

To the contrary, the messages we read in the market’s actions are somewhat constructive for equity investors. Here’s why: Despite December 2018’s bear market decline of roughly 20% and 2019’s double-digit surge, the S&P 500 is only about 2% higher than where it was in January 2018. This means stocks have made little progress in this 18-month period. On the other hand, interest rates have been more than halved since November 2018 (see chart). Total return for the Bloomberg Barclays US Aggregate Bond Index since January 2018 is more than 7%—a significant outperformance of bonds relative to stocks. That is why, perhaps in a contrarian way, we see the developments of the past month as constructive in shifting the market balance toward stocks in the intermediate term.

**YIELD CURVE DYNAMICS.** What are we looking at? Start with the yield curve. Plummets long-term US Treasury interest rates sent the Merrill Lynch Option Volatility Estimate Index (MOVE) to a 2.5-year high and caused the three-month/10-year yield curve to further invert, with the 10-year yield now 49 basis points below the three-month yield. The rate plunge also inverted the two-year/10-year yield curve, a part of the curve that heretofore has resisted the pressure of negative news on global growth. Perhaps equally provocative is the level of rates, with the benchmark 10-year yield nearly breaching 1.5%, the second-lowest level of this cycle, and the 30-year yield cracking an all-time low below 2%. Why the apparent panic and flight to safety? In short, the three pillars of the bullish narrative appear to have cracked.

Global growth continues to worsen. Specifically, GDP forecasts, purchasing managers indexes and OECD leading indicators have continued to decline, with recent news out of Germany and China particularly concerning. Oil prices, a broad measure of the health of global demand have continued to weaken as have the prices of other commodities.

The inversion of the yield curve signals that investors believe the Federal Reserve has made a policy mistake—essentially, "behind the curve" (see chart, page 4). The 25-basis-point rate cut on July 31 has been viewed as disappointing, given expectations for more proactive easing as “insurance” against economic decline. This “mistake” has kept financial conditions tight, the US dollar strong and, in turn, put pressure on emerging market countries with dollar-denominated debt. Lastly, there is now growing skepticism that the trade conflict with China will be settled anytime soon—a scenario that sets up risks of more currency volatility and deflation, which also puts downward pressure on interest rates.

**RECESSION ODDS GROWING.** Granted, we do think recession odds are growing. An inverted yield curve reduces what banks can earn by making loans, slowing both credit growth and economic activity. While this credit dynamic often works with lags, it is why the yield curve has a good track record of calling recessions.

Since Early 2018, the S&P 500 Shows No Gain While the 10-Year US Treasury Yield Has Plummeted

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Source: Bloomberg as of Aug. 30, 2019
and why equity investors are finally paying attention. Indeed, now many investors and market pundits have come to recognize rising recession risks and are recommending defensive positioning. While we continue to believe that any recession over the next 12 to 24 months would be modest and likely mirror the 1990-1991 experience, we see equity investors’ increasing caution as a good thing; it adjusts stock prices for the current risks—factors that were shrugged off in June and July as the market placed high hopes on both the Fed and the Trump administration’s ability to navigate trade conflicts.

There are two important implications of the recession wake-up call. The first is that it will help recalibrate 2020 consensus earnings estimates, which now call for a 11% gain. In our opinion, that is unachievable. Already, as we wrap up the second quarter earnings season, we see that year-over-year profits appear to be down 0.75%—the second consecutive down quarter and enough to constitute an earnings recession, especially given that in the second quarter of 2018 profits grew 26%. Forward earnings guidance has been resetting. The most recent negative-to-positive guidance ratio is 3.0, which is above average, and earnings revision breadth is still negative. Corporate managers are finally acknowledging the weakening economic outlook, and that’s a positive for equities. Combine that with a steepening of the yield curve, and we would be buyers of stocks.

**VALUATION SUPPORT.** A final factor is that the decline in stock prices establishes valuation support, something that we feel has been lacking this year. With flat-to-falling earnings growth, all of the gains have come up from expansion of the price/earnings multiple. With the benchmark 10-year Treasury now at 1.50%, the equity risk premium is a much more comfortable 470 basis points, well above the 40-year average of 275 basis points and this cycle’s average of 350 basis points.

Going forward, we will watch for a steepening of the yield curve in which Fed cuts on the front end are matched by rising rates on the long end, which would be a sign of improving economic prospects. Until then, consider maintaining barbell bond portfolios through overweighting to ultrashort and long-term bonds. A bottoming in long rates and steepening of the curve will ultimately be a buying opportunity for stocks.
Health Care Diagnosis: Policy Uncertainty

KEVIN DEMERS, CFA
Equity Strategist
Morgan Stanley Wealth Management

Investors often note the demographic demand drivers for the health care sector as a reason to be a long-term bull. However, the sector also faces an often-overlooked cyclical—yet political—cycle. As politicians debate health care policy, it injects uncertainty into the outlook. This has certainly played out this year as we started the 2020 election cycle. “Medicare for All,” Medicare Part B reform and drug price regulation are in the news.

Searching “Medicare for All” in Google Trends as a proxy for broad health care policy uncertainty, these concerns spiked in late January; coincidently that aligned with 2020 presidential hopes starting to announce their candidacies. That’s when health care multiples contracted, reflecting the increased “cyclical” scrutiny (see chart). Now at a 12% discount to the market, health care is the second worst-performing sector for the year to date. It’s up 6% versus 17% for the S&P 500, as multiple compression offset relatively strong earnings growth. In the first half, health care companies’ earnings climbed 9.3%, well above the S&P 500’s 0.6%. This divergence between solid fundamentals and relatively weak returns highlights investors’ aversion to uncertainty.

That’s understandable. However, the health care sector tends to recover from “policy-inflicted sickness,” but it may take time. For now, consider subsectors where regulatory risks appear more limited: contract research organizations (CROs), clinical labs and medical technology.

**Contract research organizations.** On average, it costs $1.5 billion to develop a new drug and only 12% of drugs actually make it from Phase I trials to approval, according to a 2014 report by the Tufts Center for the Study of Drug Development and Tufts School of Medicine. Given the huge up-front research and development investments, biopharma companies have every incentive to ensure that clinical trials are conducted properly and expeditiously—and that’s where CROs come into play. Drug companies often outsource the design and execution of clinical trials to CROs, which then leverage data to improve patient selection and trial design. We believe that their intermediary position in the health care value chain should shield CROs from increased regulatory scrutiny.

**Clinical labs.** For the past several years, the Protecting Access to Medicare Act of 2014 disrupted the clinical lab industry by standardizing and reducing Medicare payments for lab tests. While this was an immediate negative, it may actually benefit the large national laboratories, which already conduct tests at lower costs. As smaller, independent labs and hospitals face margin pressure, we expect to see consolidation. Furthermore, the recent rise of “preferred lab networks,” whereby managed care companies direct patient testing to in-network labs, should further accelerate this shift toward the larger players. With the regulatory impact behind them and the new operating environment favoring the bigger companies, we see opportunities in clinical labs.

**Medical technology.** Drugmakers have benefited from hugely inflationary pricing, but medtech companies have faced price deflation for their products. This leaves the industry less exposed to incremental regulation focused on capping price increases and improving transparency. The medtech industry is quite diverse across products and markets, with growth generally supported through increased utilization trends, aging demographics, and innovation. With an attractive growth backdrop and less regulatory/pricing risk, medtech appears well positioned within the health care landscape.

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**As Health Care Policy Has Gained Public Attention, The Sector’s Relative Valuation Has Declined**

*Numbers represent search interest relative to the highest point on the chart for a given region and time. A value of 100 is the peak popularity. 50 means the term is half as popular.*

Source: Google Trends, Bloomberg as Aug. 30, 2019

Please refer to important information, disclosures and qualifications at the end of this material.
The Name Is Bond. Long Bond.

MATTHEW HORNBACK
Global Head of Interest Rate Strategy
Morgan Stanley & Co.

The yield on each longest-maturity government bond in more than 20 developed markets—including the US, the UK, Canada, Germany and France—hit an all-time low in August. While a “sell the fact” trade in bond markets around the central bank meetings in mid-September may cause rates to tick up, there is no question that long-term bonds are in uncharted territory.

NEW LOW YIELDS. Driven by deteriorating economic data that raises concerns about a global recession, the plunge in long-term interest rates has been extraordinary (see chart). By the end of August, the 30-year US Treasury bond yield had fallen below 2.00%, making an all-time low at 1.94%. The benchmark 10-year US Treasury touched 1.47%, within spitting distance of the all-time low of 1.32%. It settled in at 1.50% by end of the month, a little less than half the yield in November 2018 and slightly below our 2019 year-end forecast of 1.60%. Also in mid-August, the US Treasury Department announced it had begun outreach on the idea of selling ultralong bonds—specifically, 50-year and 100-year maturities. The reception to the idea was lukewarm given the market’s belief that regular, predictable Treasury issuance leads to lower overall borrowing costs.

Global rates plunged, too, and global sovereign bonds with a par value of $15 trillion now trade with negative yields. Essentially, investors get back less than they paid for the bond. Most of the negative yields are in Japan and Europe—in particular Germany, France, Switzerland and the Netherlands (see chart).

POSITIVE PAYOUTS. At the same time, what looks to one person like a negative yield to another may offer a positive payout—and an attractive one at that. German Bunds and Japanese government bonds offer quite attractive positive yields when combined with currency swaps or currency forwards. This is why liquid government bonds around the world trade with such positive correlations.

Yet we can’t ignore negative-yielding bonds, either. They have had an undeniable impact on other markets such as gold, which may find demand from investors looking to avoid negative yields elsewhere. The rate situation is one of the factors behind the run-up in gold prices. At about $1,520 an ounce, gold is up some 18% for the year to date. Of course, investors have other options to stash away money, like short-term Treasuries.

The yield on the two-year note has fallen into the 1.38% to 1.52% range, given that the bond market now prices four to five more 25-basis-point rate cuts. We expect the yield to remain in that range at least until the next meeting of the Federal Open Market Committee on Sept. 17 and Sept. 18.

Of course, given the rate plunge, investors are asking if US Treasury bond yields could follow Japan and Germany into negative territory. In our view, the chance of that happening in the next five years is very low.

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Long-Term Interest Rates Have Plunged Globally—and Some Are Even Negative

![Graph of US Treasury Yield and 10-Year Government Bond Yield]

Source: Bloomberg as of Aug. 30, 2019

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Please refer to important information, disclosures and qualifications at the end of this material.
How Falling Rates May Affect Bond Investors

The potential for an economic slowdown has led to falling rates along the US Treasury yield curve. In addition, the Federal Reserve voted in late July to reduce the federal funds rate by 0.25% to a range of 2.00% to 2.25%, which may be the onset of a new rate-cutting cycle. This is particularly relevant as some $1 trillion moved into money market and short-term bond funds during the past 10 years. Investors began allocating to short-term fixed income strategies during the financial crisis, seeking safety and liquidity while protecting their assets from the uncertainty of rate hikes. As the Fed raised short rates and the yield curve continued to flatten, short-term investments remained attractive. Meanwhile, the S&P 500 Index has averaged a 14.70% yearly return during this period. As a result, investor portfolios have significant allocations to both equity and short-term fixed income. In the current falling rate environment, investors may consider realigning their fixed income holdings to diversify certain risks.

Generally, the price of bonds tends to move inversely with falling interest rates, resulting in gains. However, the performance of debt is heavily influenced by maturity and credit risk, which also affects

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<th>Index/Interest Rate Decline</th>
<th>Months of Positive Returns (%)</th>
<th>Average Performance (%)</th>
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<tr>
<td>S&amp;P 500</td>
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<td>Less than or equal to 0.25%</td>
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*300 months from July 1994 through June 2019

Source: Morgan Stanley Wealth Management Portfolio Analytics

The table below highlights how bond indexes and the S&P 500 Index have fared in the past 25 years in months when the 10-year US Treasury yield moved down by at least 0.10% and 0.25%, respectively. The data suggests that:

- **Longer-maturity bonds tend to outperform.** Benchmarks across a variety of maturity ranges show that longer-dated fixed income provides a positive hedge and stronger returns than equities and fixed income that have shorter maturities.

- **Lower-quality credit underperforms.** Regardless of maturity, certain bonds may deteriorate when the Fed is lowering rates, as this normally occurs when the economy is slowing, which may affect the ability of companies to repay their loans. Debt with higher credit risk and less liquidity will generally offer more yield but may produce a negative total return when interest rates fall. In the table, the Credit Suisse Leveraged Loan Index, which mainly comprises of below investment grade securities, represents riskier bonds.

The depth of the interest rate decrease magnifies these effects. The performance of both equity and fixed income generally accelerates, both positively and negatively, as the size of the interest rate drop increases. In the table, it can be seen that the average total return for the S&P 500 was -0.29% during months in which the 10-year Treasury yield fell at least 0.10% while the Bloomberg Barclays 7-10 Year Aggregate Index had an average 1.74% return. The S&P 500’s negative return decreased substantially to -1.17% and the Bloomberg Barclays 7-10 Year Aggregate Index produced an even greater return of 2.18% in months that the 10-year Treasury yield fell by 0.25% or more.

For many investors, certain types of bonds can provide ballast in a portfolio. If the Fed continues to lower the fed funds rate, or if market forces further push down Treasury yields, investors should consider the diversification and liquidity provided by higher-quality and longer-maturity bonds.
Change for A Dollar?

DAVID S. ADAMS, CFA
Strategist
Morgan Stanley & Co.

That the US may intervene to weaken the US dollar has become an oft-discussed market topic. After all, the dollar has been appreciating on a multyear basis, particularly against emerging markets, and we estimate that it is currently about 10% overvalued (see chart). Moreover, the US administration has expressed concerns over the issues of trade imbalances and foreign currency manipulation (see chart, page 9). Despite investors’ increased focus on this topic, we think that the market lacks a comprehensive understanding of how intervention works, as well as a framework for judging its probability and analyzing its impact.

In assessing the likelihood of an intervention, we would look to several factors: whether the administration views trade negotiations as making insufficient headway; any increased perception of competitive devaluations abroad; whether the Federal Reserve is thought to be insufficiently dovish; or if realized data and the economic outlook both soften.

However, the market may be underestimating the ease with which the US can intervene unilaterally. The secretary of the treasury, with the approval of the president, can intervene in the currency market through its Exchange Stabilization Fund (ESF) without prior congressional authorization. While US dollar policy since 1995 has been passive, with the three subsequent interventions taking place since then (1998, 2000, 2011) being done at the behest of foreign partners and in token amounts, this “strong dollar” policy can be changed unilaterally.

We estimate that the ESF has $67.8 billion in assets that can be sold to weaken the dollar entirely unilaterally. Funding beyond this can be obtained, but this requires the assent of the Federal Reserve System, Congress and/or foreign partners. The ESF is fairly unconstrained in the currencies in which it could intervene.

Would an intervention successfully weaken the dollar? Not necessarily. We judge the effectiveness of an intervention as driven by three criteria: the operational parameters of the intervention; the perceived credibility and effectiveness of future US policy action; and the response of foreign partners. A dollar-weakening intervention is likely to be more successful if it is coordinated with the Fed and/or with foreign partners, signaled and “unsterilized,” which means the Fed’s balance sheet is allowed to increase. However, for an intervention to weaken the dollar sustainably, investors would need to view additional policy actions by the US as both more probable and effective, and price this in accordingly. If the intervention is viewed as a “one and done,” price action would likely be limited.

The Fed’s response here is critical, and we argue there are good reasons to think the Fed would be reticent to cooperate with the Treasury in such an intervention, given the potential risks to its credibility in the eyes of the market as an independent body and given that the dollar is not a formal part of its mandated objectives—maximum employment, stable prices and moderate long-term interest rates. To this end, any impact on the Fed’s balance sheet would likely be sterilized. Rhetoric from Congress in response to intervention should also be watched.

Beyond the future course of domestic policy, foreign policy responses are critical. The range of outcomes between active resistance and counterintervention to active support are considerable, and the ability of foreign partners to either completely counter an intervention or significantly amplify its dollar-weakening effect is high. If markets view intervention as escalating already present...
trade tensions, which is likely in the current environment, they may view the probability of cooperation as fairly low.

What scenarios are most likely and what are the implications? The number of possible combinations of intervention scenarios is nearly infinite. To guide our analysis, we see three possible courses:

Verbal intervention. In this action, the US administration formally announces its intent to intervene but stops short of doing so. Dollar weakness would depend on the specificity of the conditions provided and the assumed probability of their occurring, but would likely be modest. The response of domestic and foreign policymakers is a critical variable. The cross-asset market response is likely fairly limited, albeit modestly risk-off and dollar negative.

Unilateral policy action. Here, the US administration intervenes and announces a formal change in US foreign exchange policy. The dollar would likely initially fall 2% to 3% on the news, but could fall as much as 10% depending on the credibility of future policy actions and the foreign response. This sort of action would likely be more risk-negative as it would be seen as escalating current trade tensions. Plus, the market may perceive that the additional policies being countenanced to further weaken the dollar may have unintended negative consequences for US assets. A weaker dollar, normally viewed as risk positive, would be insufficient to keep risk assets supported while flight-to-quality flows push US yields lower.

The US Dollar’s Strength Has Helped to Widen the Goods Trade Deficit

Source: Macrobond, Morgan Stanley Research as of Aug. 18, 2019

A new “Plaza Accord.” This approach, named for the 1985 agreement among the US and major trading partners to depreciate the dollar, has a longer time horizon but is both more dollar negative and risk-positive. Here, the US works with its foreign partners to weaken the dollar in a coordinated manner through a combination of intervention and monetary and fiscal policy changes. This leads to “good” dollar weakness and supports risk assets.

These courses are neither mutually exclusive nor collectively exhaustive. For example, an initial verbal intervention signaling future intervention may be followed by formal intervention at a later date, and these actions do not necessarily preclude future multilateral discussions among global policymakers.

All told, the course of dollar, financial assets and the economic outlook are altered considerably by the course of US monetary policy, US fiscal policy and the outlook for the current trade tensions. A dovish pivot by the Fed would likely amplify or soften the dollar-negative impact of an intervention but also support risk. A resolution to trade tension would do this as well.
Weekly Hours Worked Could Be an Early Sign of a Weakening Job Market

The average hours per week worked in the US has declined recently as companies position for slower global growth and softer demand. In July, the Bureau of Labor Statistics reported the average weekly hours worked declined to 34.3 from 34.4 in the month prior. The reading, although well above the financial crisis low of 33.7, underscores some fragility within an otherwise strong job market. Concerns about slowing global growth and US-China trade tensions have only recently started to show up in consumer and business confidence surveys. Although the July jobs report shows a still-robust labor market, the recent slide in average weekly hours may mark the beginning of a trend. Should average weekly hours decline further, it may foreshadow slower hiring ahead, as companies tend to curtail staff members’ hours before reducing headcount.—Christopher Baxter

Source: Bloomberg as of Aug. 28, 2019

When Recession Is Feared, Defensives Have Beaten Secular Growth

The prevailing view among investors is that the risk of a US recession has risen considerably in recent months, as supported by movements in key indicators such as the New York Federal Reserve’s Probability of Recession model and the inversion of the yield curve. In the equity market, wary investors have already anticipated a slowdown by seeking out defensive stocks, leading to double-digit outperformance; the utilities, real estate and consumer staples sectors have racked up double-digit gains relative to the broader market in the past 12 months. Given the run-up in defensive stocks, where should equity investors go if they are only now seeking cover from a recession? Despite extended valuations, defensive stocks may continue to be the best choice. When compared with secular growth stocks, which are often favored when the economy slows, defensive stocks have proven far more resilient during this cycle’s previous growth scares (see chart).—Spencer J. Cavallo

Source: Bloomberg as of Aug. 28, 2019

Despite Expectations for a Poor Crop, Corn Prices Have Declined

In June, near the end of corn-planting season, the US wrapped up its wettest 12 months on record. Newscasts featured flooded fields and forecasts of a poor harvest for corn, the nation’s most prolific crop. Even factoring in trade disputes, US corn prices, along with wheat and soybeans, looked poised to follow through on gains made in the spring. Today, however, spot prices for corn are 17% below early July levels, leaving holders of agricultural funds and exchange-traded funds frustrated (see chart). What’s going on? Beyond reduced demand from China, two factors stand out. Foremost are hotly debated USDA surveys indicating that more acres were planted than expected. Detractors say estimates based on the surveys fail to appreciate low-quality yields from late planting and other weather effects. Anticipated supply from Brazil and Argentina is also a factor, as Latin America continues to benefit from agribusiness innovations, intensifying competition with US farmers amid dollar strength.—John Duggan

Source: Bloomberg as of Aug. 30, 2019
Making Sense of Big Data, Artificial Intelligence and Machine Learning

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PHILIPPE LEE
Quantitative Strategist
Morgan Stanley Wealth Management

Big data, artificial intelligence and machine learning have attracted much public attention, but perhaps not much understanding as to what they are and how they work. As we observe from our own digital lives, data volume and complexity are growing. Beyond the buzzwords, how can we leverage the power of data to increase our clients’ probabilities of achieving their goals? What tangible steps can we take to create actionable insights to support our investment process?

We are pleased to share an overview of our ongoing investigation into these topics. While we have developed a host of investment frameworks to harness data’s potential, we look forward to pressing deeper in the coming months.

Big Data’s Promise

Whether professionally or personally, gaining knowledge helps us improve our outcomes, making us better prepared for life’s dynamic challenges. While they may boost our trivia prowess, facts alone hold less currency than applied knowledge or wisdom. Big data is a set of such facts so large it can only be analyzed electronically, with the goal of finding trends, patterns and associations that empower us to go beyond the “what?” to the “so what?”

Without some means of processing it, big data would remain a complex, high-volume web of unrelated trivia. In response, academic and professional research has given birth to the emerging field of analytics, also known as data science. Using programming skills and visualization techniques, analytics professionals wrangle big data into digestible pieces, looking for insights that foster understanding and facilitate decision-making.

Big data carries common features across academic and professional disciplines: volume, variety, velocity and veracity. With any potential data source, we must wrestle with these elements to extract value, which involves substantial effort. As with other projects, we often must work backward from our intended outcomes to determine whether a given data source warrants the investment of time and resources.

This data falls into two broad categories: structured and unstructured data. Structured data falls neatly into organized formats, such as a spreadsheet, and features “hard” values like numbers and dates. Financial data providers, including Bloomberg and FactSet, clean and store thousands of structured data series, some of which you may find displayed in these pages. Using database tools, companies can efficiently store and retrieve structured data. Yet, only 20% of today’s enterprise data falls into this category. Unstructured data, such as call transcripts, media files or email, may defy efficient storage and likely requires additional processing to become actionable. With unstructured data ballooning in volume and scope, data vendors now offer structured versions of previously unstructured data in order to facilitate decision-making insights. Given real-world constraints, we have focused our analysis thus far on structured data.

As with other scientific endeavors, data science involves gathering evidence, testing hypotheses and classifying knowledge. After determining some pattern or relationship, we may construct a framework to track and interpret the data systematically, which may lead to investable signals. Once operational, these frameworks support our efforts to discern between signals and noise and to build an unbiased picture (see chart, page 12). To date, these frameworks have primarily incorporated “directed learning,” where we have programmed our systems in order to track intuitive, predefined variables. That approach helps to address human limitations and offer the prospect of both cumulative learning and transparency.

These frameworks include Dynamic Allocation and Tactical Equity for allocation; scoring tools for manager selection, such as Adverse Active Alpha 2.0, the Risk Score, and the Value Score; and portfolio analytics tools. We intend to broaden and deepen existing frameworks and build other frameworks, with a particular concern for tax awareness. We are also excited to consider applying some machine learning techniques to our existing allocation-focused frameworks.

Putting Machine Learning in Context

Artificial intelligence, machine learning and deep learning are often mentioned when discussing big data. Among the three, artificial intelligence has the broadest scope and describes the fact that machines are able to carry out tasks in a way considered “smart” or “intelligent.” This intelligence is often acquired by mimicking human behavior under various
Decision-Making Challenges Point to the Value of Investment Frameworks

1. **Flood of Data**
   - Processing and keeping up
   - Discerning the “signal” from the “noise”
   - Handling freedom of decision-making

2. **Behavioral Biases**
   - Overreactions
   - Decision fatigue
   - Tendency to seek confirmation

Source: Morgan Stanley Wealth Management

Circumstances—although it’s quite common for machines to eventually perform specific tasks better than humans. For example, computer board games leverage AI to find the best move and compete with humans. Natural language processing, another branch of AI, helps computers to read, decipher and understand natural human languages.

Machine learning can be thought of as giving machines access to data and letting them teach themselves. As new data is added, the machine learning model ensures that the optimal solution is constantly updated or “learned,” given the context of changing facts. As a subset of artificial intelligence, machine learning aims to increase the accuracy of its predictions by interactively learning from data rather than through explicit programming. It is widely used in applications such as weather forecasting, medical diagnosis, fraud detection and algorithmic trading.

Deep learning, a subset of machine learning, can be considered the next step in its evolution. Deep learning algorithms are inspired by the patterns of human brains’ processing of information that leads to decision-making; thus, the technique is often called “neural networks.” A neural network consists of many layers of nodes that are connected to other nodes, and the connections can be weighted to determine if data received from input nodes should be processed and passed to output nodes with weighted results. The network learns from data in an iterative manner and can be trained to deal with abstractions and poorly designed problems, such as image recognition and computer vision. For example, self-driving cars rely on multiple deep learning algorithms.

**Applications in Wealth Management**

Today, these advanced technologies and analytics provide Morgan Stanley Wealth Management with a competitive edge. The integration of big data on our Aladdin-powered Portfolio Risk Platform enables automatic monitoring of more than 3,000 risk-related factors every day and allows on-demand testing of portfolio performance under different economic conditions. The firm’s proprietary “Next Best Action” is a predictive analytics tool that leverages machine learning to optimize client engagement based on behaviors and preferences. The online investing platform, “Morgan Stanley Access Investing,” applies artificial intelligence to automate investment recommendation, portfolio management and risk monitoring, helping clients achieve their goals in a simplified and seamless way. The introduction of “Chatbot” applies natural language processing to empower more rapid and efficient client servicing at a much higher volume and a much lower error rate than human agents.

Going forward, we expect big data, artificial intelligence, machine learning and deep learning to continue improving our wealth management offering to clients. These tools may facilitate more thorough and efficient client due diligence, to deliver holistic solutions and to empower more personalized client relationships. From an investment and research perspective, they likely will offer broader insights and greater potential to improve investment performance and risk management.
Global Investment Committee
Tactical Asset Allocation

The Global Investment Committee provides guidance on asset allocation decisions through its various models. The five models below are recommended for investors with up to $25 million in investable assets. They are based on an increasing scale of risk (expected volatility) and expected return.

**Wealth Conservation**
- 1% MLPs
- 2% Inflation-Protected Securities
- 4% MLPs
- 3% Absolute Return Assets
- 25% US Fixed Income Taxable
- 16% Ultra-Short Term Fixed Income
- 12% US Equities
- 16% International Equities
- 7% Emerging & Frontier Markets
- 2% Emerging & Frontier Markets

**Income**
- 2% Inflation-Protected Securities
- 21% US Fixed Income Taxable
- 16% Ultra-Short Term Fixed Income
- 11% US Equities
- 13% International Equities
- 11% Ultra-Short Term Fixed Income
- 7% Emerging & Frontier Markets

**Balanced Growth**
- 3% MLPs
- 4% Absolute Return Assets
- 2% Inflation-Protected Securities
- 4% Equity Hedge Assets
- 6% Ultra-Short Term Fixed Income
- 24% US Equities
- 17% Short-Term Fixed Income
- 22% International Equities
- 5% Emerging & Frontier Markets

**Market Growth**
- 4% MLPs
- 1% Absolute Return Assets
- 2% Inflation-Protected Securities
- 4% Equity Hedge Assets
- 7% Ultra-Short Term Fixed Income
- 22% US Equities
- 12% US Fixed Income Taxable
- 11% Emerging & Frontier Markets

** Opportunistic Growth**
- 8% Equity Return Assets
- 2% Ultra-Short Term Fixed Income
- 9% US Fixed Income Taxable
- 36% US Equities
- 27% International Equities

**Key**
- Ultrashort-Term Fixed Income
- Fixed Income & Preferedds
- Equities
- Alternatives

Source: Morgan Stanley Wealth Management GIC as of Aug. 30, 2019

Please refer to important information, disclosures and qualifications at the end of this material.
**WEALTH MANAGEMENT**

The Global Investment Committee provides guidance on asset allocation decisions through its various models. The five models below are recommended for investors with over $25 million in investable assets. They are based on an increasing scale of risk (expected volatility) and expected return.

### Wealth Conservation
- **Income**
  - 2% Absolute Return Assets
  - 5% Opportunistic Assets
  - 10% Inflation-Protected Securities
  - 15% US Fixed Income Taxable
  - 7% International Equities
  - 34% US Equities

### Income
- 5% Absolute Return Assets
- 8% Opportunistic Assets
- 1% Inflation-Protected Securities
- 15% US Fixed Income Taxable
- 10% International Equities
- 2% Emerging & Frontier Markets

### Balanced Growth
- 4% Equity Hedge Assets
- 3% Absolute Return Assets
- 2% Inflation-Protected Securities
- 16% US Fixed Income Taxable
- 7% Emerging & Frontier Markets
- 10% Short-Term Fixed Income

### Market Growth
- 3% Equity Hedge Assets
- 1% Absolute Return Assets
- 1% Inflation-Protected Securities
- 12% US Fixed Income Taxable
- 4% Short-Term Fixed Income
- 0% Emerging & Frontier Markets

### Opportunistic Growth
- 6% Equity Return Assets
- 4% Equity Hedge Assets
- 1% MLPs
- 0% US Fixed Income Taxable
- 11% Emerging & Frontier Markets
- 23% International Equities

**Key**
- Ultrashort-Term Fixed Income
- Fixed Income & Preferreds
- Equities
- Alternatives

Source: Morgan Stanley Wealth Management GIC as of Aug. 30, 2019
## Tactical Asset Allocation Reasoning

<table>
<thead>
<tr>
<th>Global Equities</th>
<th>Relative Weight</th>
<th>Within Equities</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>Underweight</td>
<td></td>
<td>While the benchmark S&amp;P 500 has recently made an all-time high, higher risk indexes like the small-cap Russell 2000 Index are well below the high made last year. Meanwhile, sector leadership has come from defensive and high-quality sectors, which is indicative of a market that is not as bullish as it may appear. We think this is due to both economic and earnings growth, which have slowed materially this year and are apt to weigh on US stocks in the third quarter. Our year-end base case S&amp;P 500 price target remains 2,750.</td>
</tr>
<tr>
<td>International Equities (Developed Markets)</td>
<td>Overweight</td>
<td></td>
<td>We maintain a positive bias for Japanese and European equity markets. The populist movements around the world are likely to drive more fiscal policy action in both regions, especially in Europe, which will allow the central banks to offset their extraordinary monetary policies and help valuations to rise.</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>Overweight</td>
<td></td>
<td>After a difficult first 10 months of 2018, emerging market (EM) equities have performed relatively well, a positive sign for future leadership. With our view for the US dollar to make a secular top this year, global nominal GDP growth should accelerate faster than the US GDP, particularly as China’s fiscal stimulus takes hold. This should disproportionately benefit international equities, led by EM equities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global Fixed Income</th>
<th>Relative Weight</th>
<th>Within Fixed Income</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Investment Grade</td>
<td>Underweight</td>
<td></td>
<td>We have recommended shorter-duration* (maturities) since March 2013 given the extremely low yields and potential capital losses associated with rising interest rates from such low levels. We are also increasingly concerned that credit spreads do not reflect the current earnings recession in the US nor the significant leverage now present on corporate balance sheets. Therefore, we are underweight US Investment grade.</td>
</tr>
<tr>
<td>International Investment Grade</td>
<td>Underweight</td>
<td></td>
<td>Yields are even lower outside the US, offering very little value in international fixed income, particularly as the global economy begins to recover more broadly. While interest rates are likely to stay low, the offsetting diversification benefits do not warrant much, if any, position, in our view.</td>
</tr>
<tr>
<td>Inflation-Protected Securities</td>
<td>Overweight</td>
<td></td>
<td>With the recent collapse in real yields from the Fed’s pivot, these securities offer little relative value in the context of our expectations for global growth to eventually accelerate, oil prices to trough and the US dollar to top. In short, inflation risk is underpriced.</td>
</tr>
<tr>
<td>High Yield</td>
<td>Underweight</td>
<td></td>
<td>High yield bonds have rebounded with equity markets this year as the Fed pivoted to a more dovish policy. Since February, high yield has underperformed Investment grade as it starts to reflect earnings recession risk in the US. With a zero weighting in high yield since January 2018, we will revisit our allocation to high yield bonds during 2019 if spreads widen appropriately.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alternative Investments</th>
<th>Relative Weight</th>
<th>Within Alternative Investments</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>REITs</td>
<td>Underweight</td>
<td></td>
<td>Real estate investment trusts (REITs) have performed very well as global growth slowed and interest rates fell. However, REITs remain expensive and are vulnerable to credit risks. We will revisit our position as nominal GDP troughs and/or valuations become more attractive.</td>
</tr>
<tr>
<td>Master Limited Partnerships/Energy Infrastructure*</td>
<td>Overweight</td>
<td></td>
<td>Master limited partnerships (MLPs) rebounded this year. With oil prices recovering and a more favorable regulatory environment, MLPs should provide a reliable and attractive yield relative to high yield. Global supply shortages from Iranian sanctions should also be supportive for tracking activity and pipeline construction, both of which should lead to an acceleration in dividend growth.</td>
</tr>
<tr>
<td>Hedged Strategies (Hedge Funds and Managed Futures)</td>
<td>Equal Weight</td>
<td></td>
<td>This asset category can provide uncorrelated exposure to traditional risk-asset markets. It tends to outperform when traditional asset categories are challenged by growth scares and/or interest rate volatility spikes. With the recent surge in volatility, these strategies could perform better on a relative basis.</td>
</tr>
</tbody>
</table>

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*For more about the risks to Master Limited Partnerships (MLPs) and Duration, please see the Risk Considerations section beginning on page 16 of this report.

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Source: Morgan Stanley Wealth Management GIC as of Aug. 30, 2019

Please refer to important information, disclosures and qualifications at the end of this material.
The Global Investment Committee (GIC) is a group of seasoned investment professionals from Morgan Stanley & Co. and Morgan Stanley Wealth Management who meet regularly to discuss the global economy and markets. The committee determines the investment outlook that guides our advice to clients. They continually monitor developing economic and market conditions, review tactical outlooks and recommend asset allocation model weightings, as well as produce a suite of strategy, analysis, commentary, portfolio positioning suggestions and other reports and broadcasts.

David S. Adams, Chetan Ahya, Christopher Baxter, Spencer J. Cavallo, John Duggan Steve Edwards, Justin Epstein, Kevin Domans, Matthew Hornbach, Susan K. McDowell, Stephanie Wang and Zi Ye are not members of the Global Investment Committee and any implementation strategies suggested have not been reviewed or approved by the Global Investment Committee.

Index Definitions

For index, indicator and survey definitions referenced in this report please visit the following:
https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions

Risk Considerations

Alternative Investments

The sole purpose of this material is to inform, and it in no way is intended to be an offer or solicitation to purchase or sell any security, other investment or service, or to attract any funds or deposits. Investments mentioned may not be suitable for all clients. Any product discussed herein may be purchased only after a client has carefully reviewed the offering memorandum and executed the subscription documents. Morgan Stanley Wealth Management has not considered the actual or desired investment objectives, goals, strategies, guidelines, or factual circumstances of any investor in any fund(s). Before making any investment, each investor should carefully consider the risks associated with the investment, as discussed in the applicable offering memorandum, and make a determination based upon their own particular circumstances, that the investment is consistent with their investment objectives and risk tolerance.

Alternative investments are often speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are suitable only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing.

Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing.

Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice.

Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank.

Hypothetical Performance

General: Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Hypothetical performance results have inherent limitations. The performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation.

Despite the limitations of hypothetical performance, these hypothetical performance results may allow clients and Financial Advisors to obtain a sense of the risk / return trade-off of different asset allocation constructs.

Investing in the market entails the risk of market volatility. The value of all types of securities may increase or decrease over varying time periods.

This analysis does not purport to recommend or implement an investment strategy. Financial forecasts, rates of return, risk, inflation, and other assumptions may be used as the basis for illustrations in this analysis. They should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. No analysis has the ability to accurately predict the future, eliminate risk or guarantee investment results. As investment returns, inflation, taxes, and other economic conditions vary from the assumptions used in this analysis, your actual results will vary (perhaps significantly) from those presented in this analysis.
The assumed return rates in this analysis are not reflective of any specific investment and do not include any fees or expenses that may be incurred by investing in specific products. The actual return of a specific investment may be more or less than the returns used in this analysis. The return assumptions are based on hypothetical rates of return of securities indices, which serve as proxies for the asset classes. Moreover, different forecasts may choose different indices as a proxy for the same asset class, thus influencing the return of the asset class.

An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment at $1.00 per share, it is possible to lose money by investing in the Fund.

ETF Investing
An investment in an exchange-traded fund involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. Investing in an international ETF also involves certain risks and considerations not typically associated with investing in an ETF that invests in the securities of U.S. issuers, such as political, currency, economic and market risks. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies. ETFs investing in physical commodities and commodity or currency futures have special tax considerations. Physical commodities may be treated as commodities subject to a maximum 28% long-term capital gains rates, while futures are marked-to-market and may be subject to a blended 20% long- and 40% short-term capital gains tax rate. Rolling futures positions may create taxable events. For speculators and a greater explanation of possible risks with ETFs, along with the ETF’s investment objectives, charges and expenses, please consult a copy of the ETF’s prospectus. Investing in sector ETFs may be more volatile than diversifying across many industries. The investment return and principal value of ETF Investments will fluctuate, so an investor’s ETF shares (Creation Units), if or when sold, may be worth more or less than the original cost. ETFs are redeemable only in Creation Unit size through an Authorized Participant and are not individually redeemable from an ETF.

Investors should carefully consider the investment objectives and risks as well as charges and expenses of an exchange-traded fund or mutual fund before investing. The prospectus contains this and other important information about the mutual fund. To obtain a prospectus, contact your Financial Advisor or visit the mutual fund company’s website. Please read the prospectus carefully before investing.

MLPs
Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in these energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk. Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, the reliance on the capital markets to fund growth, advances in tax treatments of distributions (typically mostly tax deferred), and commodity price risk. The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund’s value.

MLPs carry interest rate risk and may underperform in a rising interest rate environment. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be tax-deferred return of capital and for any net operating losses as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV; and, as a result, the MLP fund’s after-tax performance could either significantly from the underlying assets even if the pre-tax performance is closely tracked.

Duration
Duration, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates. Generally, if interest rates rise, bond prices fall and vice versa. Longer-term bonds carry a longer or higher duration than shorter-term bonds; as such, they would be affected by changes in interest rates for a greater period of time if interest rates were to increase. Consequently, the price of a long-term bond would drop significantly as compared to the price of a short-term bond.

International investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets and frontier markets, since these countries may have relatively unstable governments and less established markets and economies.

Investing in currency involves additional special risks such as credit, interest rate fluctuations, derivatives investment risk, and economic conditions. In addition, international investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies.
Managed futures investments are speculative, involve a high degree of risk, use significant leverage, have limited liquidity and/or may be generally illiquid, may incur substantial charges, may subject investors to conflicts of interest, and are usually suitable only for the risk capital portion of an investor's portfolio. Before investing in any partnership and in order to make an informed decision, investors should read the applicable prospectus and/or offering documents carefully for additional information, including charges, expenses, and risks. Managed futures investments are not intended to replace equities or fixed income securities but rather may serve as an alternative to these asset categories in a diversified portfolio.

Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary disruptions or other disruptions due to various factors, including lack of liquidity, participation of speculators and commodity intervention.

Physical precious metals are non-regulated products. Precious metals are speculative investments, which may experience short-term and long-term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. If sold in a declining market, the price you receive may be less than your original investment. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be suitable for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. The Securities Investor Protection Corporation ("SIPC") provides certain protection for customers' cash and securities in the event of a brokerage firm's bankruptcy, other financial difficulties, or if customers' assets are missing. SIPC insurance does not apply to precious metals or other commodities.

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that interest payments from a given investment may be reinvested at a lower interest rate.

Bonds rated below investment grade may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. High-yield bonds should comprise only a limited portion of a balanced portfolio.

Interest on municipal bonds is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence.

Treasury Inflation Protection Securities' (TIPS) coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

Ultra-short-term fixed income asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

Although they are backed by the full faith and credit of the U.S. Government as to timely payment of principal and interest, Treasury Bills are subject to interest rate and inflation risk, as well as the opportunity risk of other more potentially lucrative investment opportunities.

CDs are insured by the FDIC, an independent agency of the U.S. Government, up to a maximum of $250,000.00 (including principal and accrued interest) for all deposits held in the same insured capacity (e.g., individual account, joint account, IRA, etc.) per CD depository. Investors are responsible for monitoring the total amount held with each CD depository. All deposits at a single depository held in the same insured capacity will be aggregated for the purposes of the applicable FDIC insurance limit, including deposits (such as bank accounts) maintained directly with the depository and CDs of the depository. For more information visit the FDIC website at www.fdic.gov.

The majority of $25 and $1,000 par preferred securities are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 10 years, depending on the particular issue. The investor would then have income tax liability even though payments would not have been received. Price quoted is par $25 or $1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price.

The initial interest rate on a floating-rate security may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk.

The market value of convertible bonds and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yields.

Some $25 or $1,000 par preferred securities are QDI (Qualified Dividend Income) eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional 'dividend paying' perpetual preferred securities are not QDI eligible.
securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180-day window period, beginning 90 days before the ex-dividend date.

Principal is returned on a monthly basis over the life of a mortgage-backed security. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. Yields and average lives are estimated based on prepayment assumptions and are subject to change based on actual prepayment of the mortgages in the underlying pools. The level of unpredictability of an MBS/CMO’s average life, and its market price, depends on the type of MBS/CMO class purchased and interest rate movements. In general, as interest rates fall, prepayment speeds are likely to increase, thus shortening the MBS/CMO’s average life and likely causing its market price to rise. Conversely, as interest rates rise, prepayment speeds are likely to decrease, thus lengthening average life and likely causing the MBS/CMO’s market price to fall. Some MBS/CMOs may have “original issue discount” (OID). OID occurs if the MBS/CMO’s original issue price is below its stated redemption price at maturity, and results in “Imputed Interest” that must be reported annually for tax purposes, resulting in a tax liability even though interest was not received. Investors are urged to consult their tax advisors for more information.

Rebalancing does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment.

Companies paying dividends can reduce or cut payouts at any time.

Value Investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Growth Investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

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Credit ratings are subject to change.

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UCRF Board of Trustees Meeting
Meeting Schedule
October 17, 2019

11:00 a.m. – 12:00 p.m.  Standing Committee Meetings (Committee members only)
- Advocacy – Hinderaker Hall 2120
- Stewardship – Hinderaker Hall 3117

12:15 – 1:30 p.m.  Trustee Lunches with Deans (All Trustees)
- Dean Shaun Bowler – University Office Building, Conference Room 145
- Dean Jennifer Brown – Hinderaker Hall, Conference Room 1127
- Dean Milagros “Milly” Peña – Dean’s Suite
- Athletics’ Director – Tamica Smith Jones – Skye Building, Conference Room 346
- Dean Kathryn Uhrich – Location: Orbach Science Library (To be confirmed)

1:45 – 3:30 p.m.  “Deep Dive:” Faculty Presentation (All Trustees)
- Program: Science to Policy (S2P Program)
- Location(s):
  - Chung Hall Room 443 (Dean’s conference room)
    - Chung Hall Room 444 (breakout room)
    - Chung Hall Room 415 (breakout room)
    - Chung Hall Room 315 (breakout room)
    - Chung Hall Room 201 (breakout room)

4:00 – 5:30 p.m.  Board of Trustees Meeting (All Trustees)
- Location: Multidisciplinary Research Bldg. (MRB)

5:30 – 6:00 p.m.  Wine Reception (All Trustees, Chancellor, deans, senior administrators and invited guests)
- Location: Multidisciplinary Research Bldg. (MRB)

6:00 – 7:00 p.m.  Trustees Dinner (All Trustees, Chancellor, deans, senior administrators and invited guests)
- Location: Multidisciplinary Research Bldg. (MRB) 3rd floor Terrace

9/3/2019
I. Call to Order and Welcome
   Chair Susan Atherton

II. Consent Agenda
   Chair Susan Atherton
   a. Approval of May 8, 2019 meeting minutes
   b. Ratify Darin Anderson as chair of the Finance & Investment Committee (effective 01/01/2020)
   c. Ratify Allison Campbell as chair of the Stewardship Committee

III. UC Update
     Darin Anderson

IV. UCR Update
    Interim Provost & EVC Tom Smith

V. Campaign Update
   Co-chair Tom Haider
   Co-chair S. Sue Johnson

VI. Advancement Update
    Vice Chancellor Peter Hayashida

VII. Committee Reports
     a. Audit
        Chair Irv Hendrick
     b. Finance & Investment
        Chair Matt Lyons

VIII. Announcements and Acknowledgements
      Chair Susan Atherton

IX. Adjournment and Closing
    Chair Susan Atherton

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Calendar Dates of Note
Chancellor’s Dinner – Saturday, October 19, 2019
Homecoming Kickoff – Saturday, November 16, 2019
School of Medicine Gala – Saturday, November 23, 2019
Watkins Society Brunch – Saturday, March 14, 2020
Donors & Scholars Luncheon – Saturday, May 2, 2020
Chancellor’s Associates Donor Reception – Wednesday, May 13, 2020