

# Endowment

March 31, 2020

**UC INVESTMENTS** 

## **UC Investments Way**



### UC Endowment and Blue & Gold

- 1. Asset Allocation
- 2. Performance
- 3. Asset Classes
- 4. Risk Allocation

#### INVESTMENT OBJECTIVES

#### **UC** Fndowment

- Maximize real, long-term total returns (income plus capital appreciation adjusted for inflation), while assuming the appropriate levels of risk.
- Maintain the liquidity necessary to meet the investment goals of the Endowment, which are to provide a stable and continuously growing stream of income, all while preserving the real (inflationadjusted) purchasing power of assets.

#### Blue and Gold

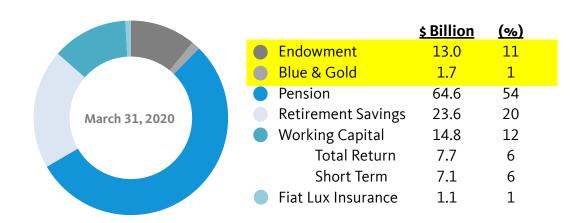
- Provide low cost, liquid, diversified investment vehicle for longterm excess capital reserves.
- Launched on March 31, 2019

#### **UC Investments**

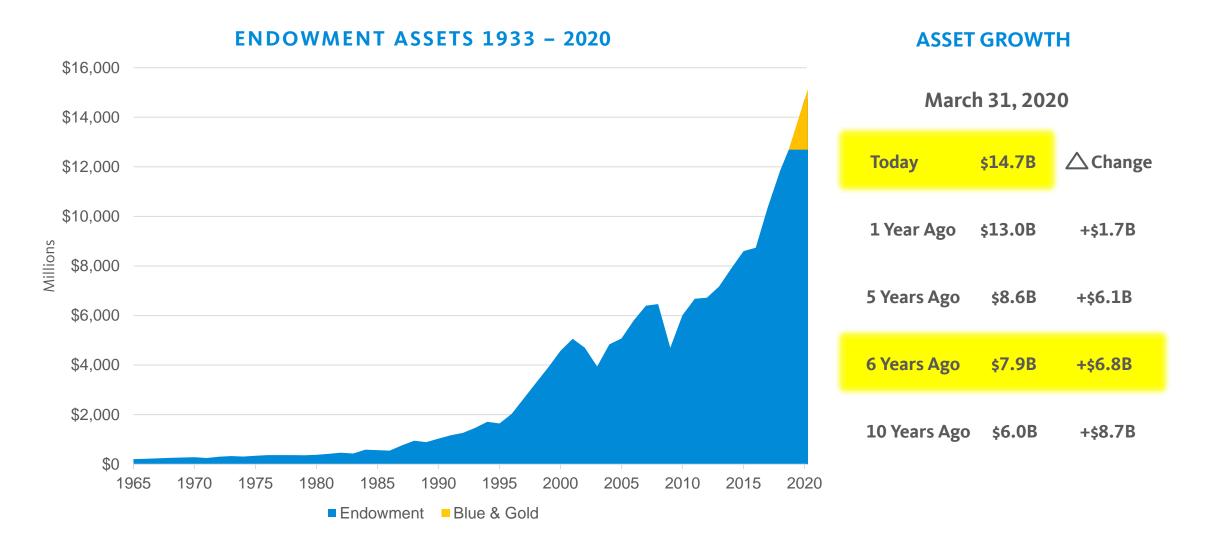
#### **INVESTMENT PRODUCTS**

- Investing Endowment assets since 1933 (88 years)
- Investing **Blue & Gold** assets since 2019 (1 year)
- Investing **Pension** assets since 1961 (60 years)
- Investing Retirement Savings assets since 1967 (53 years)
- Investing Working Capital since 1976 (45 years)
  Investing Total Return since 2008 (12 years)
  Investing Short Term since 1976 (45 years)
- Investing Fiat Lux Insurance assets since 2016 (4 years)

#### \$119.0 BILLION ACROSS 7 PRODUCTS



#### Endowment and Blue & Gold Assets Growth



## Assets Under Management This Quarter as of March 31, 2020

| Quarter To Date (3 Months) | Endowment<br>Market Value (\$B) | Blue & Gold<br>Market Value (\$B) | Total<br>Market Value (\$B) |
|----------------------------|---------------------------------|-----------------------------------|-----------------------------|
| December 31, 2019          | 14.2                            | 2.0                               | 16.2                        |
| Market Gains               | (1.9)                           | (0.3)                             | (2.2)                       |
| Value Added                | 0.6                             | 0.0                               | 0.6                         |
| Net Cash Flow              | 0.1                             | 0.0                               | 0.1                         |
| March 31, 2020             | 13.0                            | 1.7                               | 14.7                        |

## Assets Under Management Fiscal Year To Date as of March 31, 2020

| Fiscal Year To Date (9 Months) | Endowment<br>Market Value (\$B) | Blue & Gold<br>Market Value (\$B) | Total<br>Market Value (\$B) |
|--------------------------------|---------------------------------|-----------------------------------|-----------------------------|
| June 30, 2019                  | 13.4                            | 1.3                               | 14.7                        |
| Market Gains                   | (1.1)                           | (0.2)                             | (1.3)                       |
| Value Added                    | 0.6                             | 0.0                               | 0.6                         |
| Net Cash Flow                  | 0.2                             | 0.6                               | 0.8                         |
| March 31, 2020                 | 13.0                            | 1.7                               | 14.7                        |

## Assets Under Management Month To Date as of April 30, 2020

| Month To Date (1 Month) | Endowment<br>Market Value (\$B) | Blue & Gold<br>Market Value (\$B) | Total<br>Market Value (\$B) |
|-------------------------|---------------------------------|-----------------------------------|-----------------------------|
| March 31, 2020          | 13.0                            | 1.7                               | 14.7                        |
| Market Gains            | 0.8                             | 0.1                               | 0.9                         |
| Value Added             | (0.3)                           | 0.0                               | (0.3)                       |
| Net Cash Flow           | (0.0)                           | 0.0                               | 0.0                         |
| April 30, 2020          | 13.5                            | 1.8                               | 15.3                        |

## General Endowment Pool

## Endowment Assets Under Management

| Quarter To Date (3 Months) | Market Value (\$B) | Fiscal Year To Date (9 Months) | Market Value (\$B) |
|----------------------------|--------------------|--------------------------------|--------------------|
| December 31, 2019          | 14.2               | June 30, 2019                  | 13.4               |
| Market Gains               | (1.9)              | Market Gains                   | (1.1)              |
| Value Added                | 0.6                | Value Added                    | 0.6                |
| Net Cash Flow              | 0.1                | Net Cash Flow                  | 0.2                |
| March 31, 2020             | 13.0               | March 31, 2020                 | 13.0               |

## **Endowment Assets Under Management**

| Month To Date (1 Month) | Market Value (\$B) |
|-------------------------|--------------------|
| March 31, 2020          | 13.0               |
| Market Gains            | 0.8                |
| Value Added             | (0.3)              |
| Net Cash Flow           | (0.0)              |
| April 30, 2020          | 13.5               |

## **Endowment Asset Allocation**

| As of March 31, 2020 | Market Value<br>(\$B) | Weight (%) | Over/Underweight to Interim Policy (%) | Interim Policy (%) | Long-Term Target (%) |
|----------------------|-----------------------|------------|--|--------------------|----------------------|
| Public Equity        | 4.3                   | 33.4       | (5.6)                                  | 39.0               | 30                   |
| Fixed Income         | 1.4                   | 10.7       | 2.0                                    | 8.7                | 10                   |
| Other Investments    | 6.5                   | 50.1       | 1.1                                    | 49.0               | 60                   |
| Absolute Return      | 2.8                   | 21.2       | (2.1)                                  | 23.3               | 25                   |
| Private Equity       | 2.1                   | 16.1       | 1.6                                    | 14.5               | 23                   |
| Real Estate          | 1.0                   | 7.6        | (0.4)                                  | 8.0                | 9                    |
| Real Assets          | 0.7                   | 5.0        | 1.8                                    | 3.2                | 4                    |
| Cash                 | 0.8                   | 5.8        | 2.5                                    | 3.3                | 0                    |
| Total                | \$13.0B               | 100.0%     |  | 100.0%             | 100%                 |

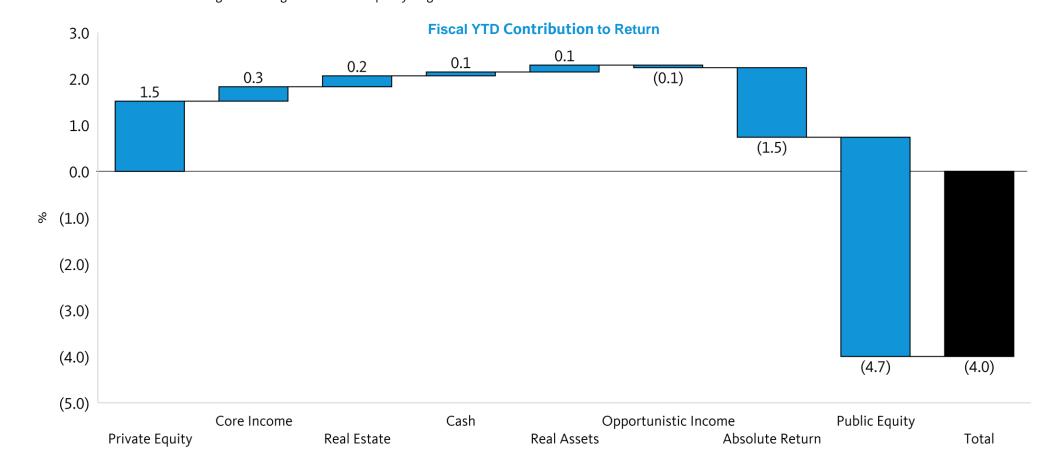
## **Endowment Asset Allocation**

| As of April 30, 2020 | Market Value<br>(\$B) | Weight (%) | Over/Underweight to Interim Policy (%) | Interim Policy (%) | Long-Term Target (%) |
|----------------------|-----------------------|------------|--|--------------------|----------------------|
| Public Equity        | 3.9                   | 28.9       | (10.1)                                 | 39.0               | 30                   |
| Fixed Income         | 1.3                   | 9.9        | 1.2                                    | 8.7                | 10                   |
| Other Investments    | 6.6                   | 48.9       | (0.1)                                  | 49.0               | 60                   |
| Absolute Return      | 2.8                   | 20.6       | (2.7)                                  | 23.3               | 25                   |
| Private Equity       | 2.2                   | 16.1       | 1.6                                    | 14.5               | 23                   |
| Real Estate          | 1                     | 7.4        | (0.6)                                  | 8.0                | 9                    |
| Real Assets          | 0.7                   | 4.8        | 1.6                                    | 3.2                | 4                    |
| Cash                 | 1.7                   | 12.3       | 9                                      | 3.3                | 0                    |
| Total                | \$13.5B               | 100.0%     |  | 100.0%             | 100%                 |

### **Endowment Performance**

| As of March 31, 2020 | Market Value | Weight | QTD      | Fiscal YTD |        |        | Annu   | alized Retu | urns    |         |         |
|----------------------|--------------|--------|----------|------------|--------|--------|--------|-------------|---------|---------|---------|
| Net Returns (%)      | (\$B)        | (%)    | 3 Months | 9 Months   | 1 Year | 3 Year | 5 Year | 6 Year      | 10 Year | 20 Year | 25 Year |
| UC Endowment         | 13.0         | 100    | (9.3)    | (4.0)      | 0.6    | 5.4    | 5.1    | 5.8         | 7.3     | 5.4     | 8.5     |
| Policy Benchmark*    |              |        | (13.3)   | (8.1)      | (5.2)  | 2.9    | 3.4    | 3.8         | 5.4     | 4.6     | 7.6     |
| Value Added          |              |        | 4.0      | 4.1        | 5.8    | 2.5    | 1.7    | 2.0         | 1.9     | 0.8     | 0.9     |

<sup>\*</sup>The UC Endowment Benchmark is a weighted average of investment policy targets.



### Endowment Attribution – Fiscal Year to Date

| As of March 31, 2020 | Portfolio<br>Return | Benchmark<br>Return | Allocation Attribution | Selection<br>Attribution | Total<br>Attribution |
|----------------------|---------------------|---------------------|------------------------|--------------------------|----------------------|
| Public Equity        | (12.5)              | (15.6)              | 0.2                    | 1.1                      | 1.3                  |
| Liquidity            | 2.5                 | 5.7                 | 0.3                    | (0.3)                    | (0.0)                |
| Core Income*         | 5.7                 | 5.7                 | 0.2                    | (0.0)                    | 0.1                  |
| Opportunistic Income | (2.4)               | 5.7                 | 0.1                    | (0.3)                    | (0.2)                |
|                      |                     |                     |                        |                          |                      |
| Other Investments    | 1.0                 | (5.1)               | 1.8                    | 0.9                      | 2.7                  |
| Absolute Return      | (7.2)               | (5.5)               | 0.1                    | (0.4)                    | (0.3)                |
| Private Equity       | 11.7                | (11.4)              | 1.7                    | 1.2                      | 2.9                  |
| Real Estate          | 3.5                 | 3.2                 | (0.1)                  | 0.0                      | (0.1)                |
| Real Assets          | 3.7                 | 3.8                 | 0.2                    | (0.0)                    | 0.2                  |
|                      |                     |                     |                        |                          |                      |
| Cash                 | 1.6                 | 1.6                 | 0.2                    | (0.0)                    | 0.2                  |
|                      |                     |                     |                        |                          |                      |
| Total                | (4.0)               | (8.1)               | 2.5                    | 1.6                      | 4.1                  |

<sup>\*</sup> Invested in U.S. Treasuries in Quarter 1 - 2020.

## **Endowment Policy Benchmark**

| in (%) Max (% | Long-Tern<br>6) Target (% |      | le Ranges<br>(%)Max |
|---------------|---------------------------|------|---------------------|
| 26.7 60.0     | 30.0                      | 20.0 | 52.5                |
| 0.0 17.5      | 10.0                      | 0.0  | 17.5                |
|               |                           |      |                     |
| 13.3 30.3     | 22.5                      | 10.0 | 32.5                |
| 2.0 24.5      | 25.0                      | 15.0 | 32.0                |
| 1.7 16.2      | 12.5                      | 3.0  | 17.5                |
|               | -                         | -    | -                   |
| _             |                           |      |                     |

## **Public Equity**

| As of March 31, 2020 | Market Value | Weight QT |          | Fiscal YTD | Annualized Returns |        |        |        |         |         |         |
|----------------------|--------------|-----------|----------|------------|--------------------|--------|--------|--------|---------|---------|---------|
| Net Returns (%)      | (\$B)        | (%)       | 3 Months | 9 Months   | 1 Year             | 3 Year | 5 Year | 6 Year | 10 Year | 20 Year | 25 Year |
| Public Equity        | 4.3          | 100       | (20.0)   | (12.5)     | (9.2)              | 2.2    | 2.7    | 3.7    | 6.5     | 3.3     | 7.4     |
| Policy Benchmark*    |              |           | (22.5)   | (15.6)     | (12.7)             | 1.0    | 2.5    | 3.0    | 5.8     | 4.1     | 8.3     |
| Value Added          |              |           | 2.5      | 3.1        | 3.5                | 1.2    | 0.2    | 0.7    | 0.7     | (0.8)   | (0.9)   |
| Active               | 1.9          | 43        | (19.3)   | (12.1)     | (8.1)              | -      | -      | -      | -       | -       |         |
| Passive              | 2.4          | 57        | (20.7)   | (12.3)     | (9.4)              | _      | -      | -      | _       | _       | _       |

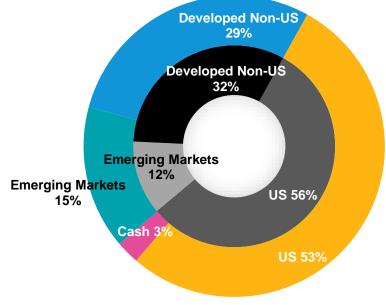
<sup>\*</sup> Prior to July 1, 2017, the total public equity benchmark was an aggregate of benchmarks for underlying equity portfolios.

| Active Managers          | # of funds | Weight |
|--------------------------|------------|--------|
| Global Generalist        | 2          | 10.9%  |
| US                       | 1          | 6.5%   |
| Developed Non-US         | 2          | 11.6%  |
| Global Sector Specialist | 1          | 2.0%   |
| Emerging Markets         | 2          | 12.0%  |
|                          | 8          | 43.0%  |

| Passive Index Exposure     | Strategy       | Weight |
|----------------------------|----------------|--------|
| S&P 500 Tobacco Free       | US Passive     | 18.1%  |
| MSCI ACWI IMI Tobacco Free | Global Passive | 38.4%  |

#### **Geographic Exposure**





## **Public Equity**

#### **Attribution:**

GEP outperformance FYTD 2019/20 driven by manager stock selection, as well as over weights to healthcare and China.

| Top 3 Absolute Performers FYTD | FYTD return | Weight |
|--------------------------------|-------------|--------|
| 1. Global Sector Specialist    | 7.9%        | 2.0%   |
| 2. US Manager                  | -11.1%      | 6.5%   |
| 3. Developed Non-US Manager    | -11.5%      | 6.8%   |

| Bottom 3 Absolute Performers FYTD                                 | FYTD return | Weight |
|---|-------------|--------|
| 1. Global Generalist Manager                                      | -17.2%      | 3.6%   |
| 2. Developed Non-US Manager                                       | -16.3%      | 5.2%   |
| 3. Global Generalist Manager                                      | -14.8%      | 7.7%   |
| GEP Benchmark (MSCI All Country World Index Net IMI Tobacco Free) | -15.6%      |        |

## **Public Equity**

#### As of March 31, 2020

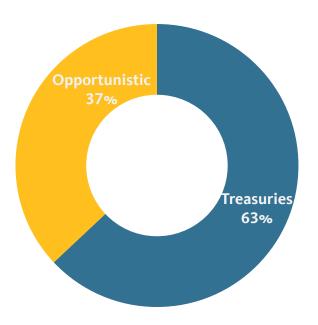
| External Manager           | Market Value<br>(\$M) | Manager (%) | MSCI ACWI IMI<br>(%) | S&P 500<br>(%) | Annualized<br>Return |
|----------------------------|-----------------------|-------------|----------------------|----------------|----------------------|
| MSCI ACWI IMI Tobacco Free | 1,668                 | 2.9         | 2.9                  | 7.7            | 6 Years              |
| S&P 500 Tobacco Free       | 786                   | 7.7         | 2.9                  | 7.7            | 6 Years              |
| Manager 3                  | 323                   | 6.0         | 2.9                  | 7.7            | 6 Years              |
| Manager 4                  | 295                   | 8.0         | 4.4                  | 8.0            | 3.9 Years            |
| Manager 5                  | 289                   | 9.9         | 2.5                  | 7.5            | 5.6 Years            |
| Manager 6                  | 284                   | 8.1         | 2.9                  | 7.7            | 6 Years              |
| Manager 7                  | 234                   | 13.6        | 2.2                  | 7.1            | 5.7 Years            |
| Manager 8                  | 209                   | (16.3)      | (13.9)               | (9.0)          | 0.8 Years            |
| Manager 9                  | 154                   | 7.4         | 2.9                  | 7.7            | 6 Years              |
| Manager 10                 | 86                    | 13.3        | 2.9                  | 7.7            | 6 Years              |

Annualized returns for 6 years since CIO Jagdeep Singh Bachher joined. Where we don't have 6 years of returns, we have used the since inception time period.

### Fixed Income

| As of March 31, 2020 | Market Value | Weight | QTD      | Fiscal YTD |        |        | Annı   | ualized Ret | urns    |         |         |
|----------------------|--------------|--------|----------|------------|--------|--------|--------|-------------|---------|---------|---------|
| Net Returns (%)      | (\$B)        | (%)    | 3 Months | 9 Months   | 1 Year | 3 Year | 5 Year | 6 Year      | 10 Year | 20 Year | 25 Year |
| Fixed Income         | 1.4          | 100    | 0.0      | 2.5        | 5.2    | 3.9    | 2.8    | 3.0         | 4.2     | 5.7     | 6.9     |
| Policy Benchmark*    |              |        | 3.1      | 5.7        | 8.9    | 4.8    | 4.0    | 4.1         | 4.8     | 6.1     | 6.4     |
| Value Added          |              |        | (3.1)    | (3.2)      | (3.7)  | (0.9)  | (1.2)  | (1.1)       | (0.6)   | (0.4)   | 0.5     |
| Core Income          | 0.9          | 63     | 3.7      | 5.7        | 8.2    | 4.4    | 2.9    | 3.2         | 3.7     | 5.2     | 6.6     |
| Opportunistic Income | 0.5          | 37     | (5.8)    | (2.4)      | 1.2    | 3.2    | 3.8    | 3.7         | 5.6     | -       | =       |

<sup>\*</sup> Starting July 1, 2017, the benchmark is the Barclay's US Aggregate Bond Index.
Policy benchmark for Liquidity (Income) prior to July 1, 2017 was a weighted average composite of the historical policy benchmarks and targets.



## Cash

| As of March 31, 2020 | <b>Market Value</b> | Weight | QTD      | Fiscal YTD | Annualized Returns |        |        |        |         |         |         |
|----------------------|---------------------|--------|----------|------------|--------------------|--------|--------|--------|---------|---------|---------|
| Net Returns (%)      | (\$B)               | (%)    | 3 Months | 9 Months   | 1 Year             | 3 Year | 5 Year | 6 Year | 10 Year | 20 Year | 25 Year |
| Cash                 | 0.8                 | 100    | 0.5      | 1.6        | 2.2                | 2.0    | 1.7    | 1.6    | 1.9     | 3.1     | 3.7     |

| As of April 30, 2020 | Market Value | Weight | OTD     | Fiscal YTD | Annualized Return |        |        |        |         | ns      |         |  |
|----------------------|--------------|--------|---------|------------|-------------------|--------|--------|--------|---------|---------|---------|--|
| Net Returns (%)      | (\$B)        | (%)    | 1 Month |            | 1 Year            | 3 Year | 5 Year | 6 Year | 10 Year | 20 Year | 25 Year |  |
| Cash                 | 1.7          | 100    | 0.2     | 1.8        | 2.2               | 2.0    | 1.7    | 1.6    | 1.9     | 3.1     | 3.7     |  |

### Absolute Return

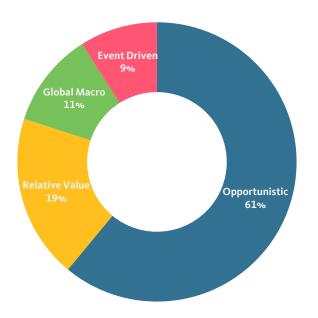
| As of March 31, 2020 | Market Value | Weight | QTD      | Fiscal YTD |        | Annualized Returns |        |        |         |                            |
|----------------------|--------------|--------|----------|------------|--------|--------------------|--------|--------|---------|----------------------------|
| Net Returns (%)      | (\$B)        | (%)    | 3 Months | 9 Months   | 1 Year | 3 Year             | 5 Year | 6 Year | 10 Year | Since Inception<br>16 Year |
| Absolute Return      | 2.8          | 100    | (10.9)   | (7.2)      | (4.3)  | 2.0                | 1.4    | 2.8    | 4.2     | 5.0                        |
| Policy Benchmark*    |              |        | (7.3)    | (5.6)      | (4.0)  | 0.5                | (1.3)  | (0.6)  | (0.2)   | -                          |
| Value Added          |              |        | (3.6)    | (1.6)      | (0.3)  | 1.5                | 2.7    | 3.4    | 4.4     | _                          |
| Opportunistic        | 1.7          | 61     | (14.8)   | (9.1)      | (6.4)  | 3.1                | 4.0    | 5.0    | -       | _                          |
| Relative Value       | 0.5          | 19     | 3.5      | 3.5        | 6.7    | 7.5                | 7.1    | 6.7    | 6.4     |                            |
| Global Macro         | 0.3          | 11     | (11.6)   | (14.8)     | (9.9)  | (4.3)              | (2.6)  | (0.6)  | 0.3     |                            |
| Event Driven         | 0.2          | 9      | (8.4)    | (2.7)      | (1.3)  | 5.1                | 2.9    | 3.3    | 5.4     |                            |

<sup>\*</sup> As of July 1, 2017, the benchmark is HFRI Fund of Funds Composite.

From March 1, 2016 to June 1, 2017, the benchmark was the HFRX Absolute Return.

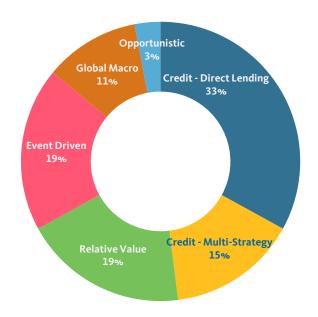
From April 1, 2009 to February 1, 2016, the benchmark was 50% HFRX Absolute Return/50% HFRX Market Directional.

Prior to that, benchmark was 1 Month T-Bill+4.5%.



## Absolute Return

| As of March 31, 2020    | Market Value | Weight | QTD      | Fiscal YTD |        |        | Annı   | ialized Reti | urns    | Since Inception |
|-------------------------|--------------|--------|----------|------------|--------|--------|--------|--------------|---------|-----------------|
| Net Returns (%)         | (\$B)        | (%)    | 3 Months | 9 Months   | 1 Year | 3 Year | 5 Year | 6 Year       | 10 Year | 16 Year         |
| Absolute Return         | 2.8          | 100    | (10.9)   | (7.2)      | (4.3)  | 2.0    | 1.4    | 2.8          | 4.2     | 5.0             |
| Policy Benchmark        |              |        | (7.3)    | (5.6)      | (4.0)  | 0.5    | (1.3)  | (0.6)        | (0.2)   | -               |
| Value Added             |              |        | (3.6)    | (1.6)      | (0.3)  | 1.5    | 2.7    | 3.4          | 4.4     | -               |
| Credit – Direct Lending | 0.9          | 33     | (9.7)    | 0.8        | 5.8    | 8.0    | -      | -            | -       |                 |
| Credit – Multi-Strategy | 0.4          | 15     | (27.5)   | (26.0)     | (24.7) | (4.6)  | (0.9)  | 0.8          | -       |                 |
| Relative Value          | 0.5          | 19     | 3.5      | 3.5        | 6.7    | 7.5    | 7.1    | 6.7          | 6.4     |                 |
| Event Driven            | 0.5          | 19     | (9.1)    | (4.7)      | (3.8)  | 4.8    | 2.8    | 3.2          | 5.3     |                 |
| Global Macro            | 0.3          | 11     | (11.6)   | (14.8)     | (9.9)  | (4.3)  | (2.6)  | (0.6)        | 0.3     |                 |
| Opportunistic           | 0.1          | 4      | 0.7      | (3.0)      | 0.3    | 7.1    | -      | -            | -       |                 |



| External Manager | Credit Strategies | Investment Strategy   | NAV (\$M) |
|------------------|-------------------|---|-----------|
| Manager 1        | Direct Lending    | European corporate lending.   | \$120     |
| Manager 2        | Direct Lending    | Consumer and small business specialty finance lending.                            | \$220     |
| Manager 3        | Direct Lending    | U.S. residential real estate credit lending.                                      | \$253     |
| Manager 4        | Direct Lending    | U.S. upper middle market corporate direct lending.<br>Vehicle is publicly traded. | \$335     |
| Manager 5        | Multi-Strategy    | Structured credit, asset backed and mortgage securities.                          | \$282     |
| Manager 6        | Multi-Strategy    | Structured credit, asset backed and mortgage securities.                          | \$150     |
|                  |                   | Total   | \$1,350   |

## **Private Equity**

| As of March 31, 2020 | Market Value | Weight | QTD      | Fiscal YTD | Annualized Returns |        |        |        |         |         |         |  |
|----------------------|--------------|--------|----------|------------|--------------------|--------|--------|--------|---------|---------|---------|--|
| Net Returns (%)      | (\$B)        | (%)    | 3 Months | 9 Months   | 1 Year             | 3 Year | 5 Year | 6 Year | 10 Year | 20 Year | 25 Year |  |
| Private Equity       | 2.1          | 100    | 1.6      | 11.6       | 26.7               | 22.9   | 21.7   | 21.1   | 19.0    | 12.0    | 20.3    |  |
| Policy Benchmark*    |              |        | (20.5)   | (11.4)     | (7.5)              | 6.6    | 11.8   | 12.8   | 14.1    | 7.6     | 12.3    |  |
| Value Added          |              |        | 22.1     | 23.0       | 34.2               | 16.3   | 9.9    | 8.3    | 4.9     | 4.4     | 8.0     |  |
| Co-Invest            | 0.6          | 30     | (5.0)    | 17.5       | 38.7               | 31.9   | 27.4   | 28.9   | 25.8    | _       | _       |  |
| Buyout               | 0.6          | 26     | 1.4      | 2.1        | 9.5                | 15.8   | 20.7   | 18.8   | 16.3    | -       | -       |  |
| Venture Capital      | 0.5          | 23     | 11.0     | 13.4       | 34.9               | 26.9   | 18.7   | 18.9   | 17.3    | -       | -       |  |
| Growth               | 0.4          | 18     | 3.3      | 11.9       | 22.0               | 9.7    | 10.9   | 8.9    | 13.0    | -       | -       |  |
| Opportunistic        | 0.1          | 3      | 6.0      | 23.3       | 42.6               | 27.5   | 12.9   | 5.9    | 19.6    | -       | -       |  |

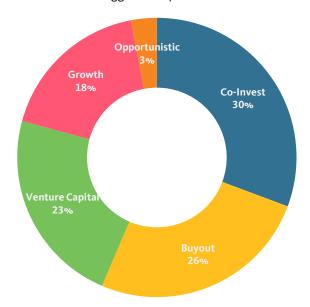
<sup>\*</sup> As of July 1, 2019, the Private Equity policy benchmark is the Russell 3000 +2.0%.

From July 1, 2017 to June 30, 2019, the Private Equity policy benchmark is the Russell 3000 +1.5%.

From March 2005 to June 2017, the Private Equity benchmark was the actual private equity return.

From January 2001 to February 2005, the Private Equity benchmark was Russell 3000 + 3% lagged one quarter.

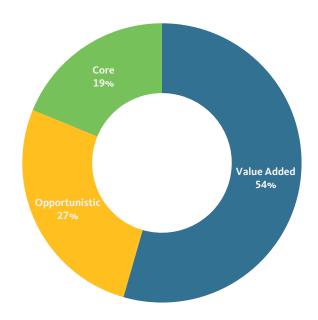
Prior to that, it was the S&P 500 + 5% lagged by a quarter.



## Real Estate

| As of March 31, 2020 | Market Value | Weight | QTD      | Fiscal YTD |        |        | Annı   | ıalized Retu | urns    | Since Inception |
|----------------------|--------------|--------|----------|------------|--------|--------|--------|--------------|---------|-----------------|
| Net Returns (%)      | (\$B)        | (%)    | 3 Months | 9 Months   | 1 Year | 3 Year | 5 Year | 6 Year       | 10 Year | 14 Year         |
| Real Estate          | 1.0          | 100    | 2.8      | 3.5        | 6.7    | 8.1    | 8.9    | 10.0         | 11.8    | 5.9             |
| Policy Benchmark*    |              |        | 1.3      | 3.2        | 4.4    | 6.1    | 8.1    | 8.6          | 10.9    | -               |
| Value Added          |              |        | 1.5      | 0.3        | 2.3    | 2.0    | 0.8    | 1.4          | 0.9     | -               |
| Value Added          | 0.5          | 54     | 2.6      | 4.3        | 8.1    | 6.7    | 8.8    | 9.0          | 9.1     | _               |
| Opportunistic        | 0.3          | 27     | 2.7      | 1.4        | 1.6    | 3.1    | 5.7    | 7.8          | 10.6    |                 |
| Core                 | 0.2          | 19     | 3.8      | 5.3        | 11.4   | 9.7    | 10.1   | 10.6         | 14.3    |                 |

<sup>\*</sup> As of April 1, 2011, the Real Estate policy benchmark is the NCREIF ODCE Index (lagged 3 months).

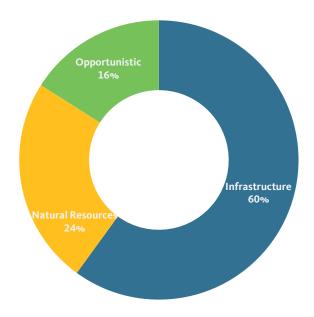


## **Real Assets**

| As of March 31, 2020 |                       |               |                 |                        | Annualized Returns |        |        |        |                            |  |
|----------------------|-----------------------|---------------|-----------------|------------------------|--------------------|--------|--------|--------|----------------------------|--|
| Net Returns (%)      | Market Value<br>(\$B) | Weight<br>(%) | QTD<br>3 Months | Fiscal YTD<br>9 Months | 1 Year             | 3 Year | 5 Year | 6 Year | Since Inception<br>10 Year |  |
| Real Assets          | 0.7                   | 100           | 1.7             | 3.8                    | 11.0               | 5.5    | (0.1)  | 0.8    | 4.4                        |  |
| Infrastructure       | 0.4                   | 60            | 2.0             | 6.9                    | 15.2               | 10.7   | 10.9   | 12.4   | -                          |  |
| Natural Resources    | 0.2                   | 24            | 2.1             | 1.3                    | 7.5                | 0.9    | (6.4)  | (4.6)  | -                          |  |
| Opportunistic        | 0.1                   | 16            | 0.4             | (0.2)                  | 6.4                | 7.6    | 4.2    | 4.2    | -                          |  |

<sup>\*</sup> Inception date for Real Assets is April 1, 2010.

The Real Assets policy benchmark is itself, the Real Assets portfolio.



### Risk Measurement

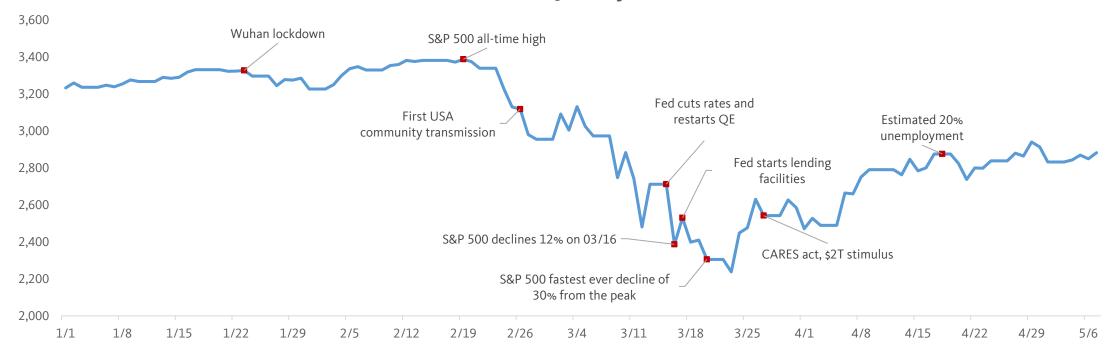
All asset classes and their benchmarks have increased risk and tracking error due to unprecedented market volatility in February and March 2020. Overall tracking error increased 1.3%.

|                         | Weight (%)  | Portfolio Risk (%)  |   | Benchmark Risk (%)   |   | Active Risk (%)   |   |
|-------------------------|---|---|---|--|---|---|---|
| Benchmark               |   | Standalone<br>Volatility  | QoQ<br>Change   | Standalone<br>Volatility   | QoQ<br>Change   | Tracking<br>Error   | QoQ<br>Change   |
| Policy (Blend)          | 100   | 23.6  | 15.2  | 21.1   | 13.5  | 3.2   | 1.3   |
| MSCI ACWI ex<br>Tobacco | 33  | 27.8  | 15.5  | 29.5   | 17.4  | 2.5   | 0.8   |
| Barclays Aggregate      | 11  | 11.6  | 8.8   | 7.1  | 3.8   | 8.1   | 5.6   |
| HFRI FOF                | 21  | 9.1   | 4.4   | 8.7  | 6.5   | 4.0   | 0.4   |
| Russell 3000            | 16  | 46.0  | 26.8  | 30.4   | 16.8  | 17.8  | 8.8   |
| NFI-ODCE                | 8   | 30.2  | 21.1  | 27.2   | 17.7  | 4.7   | (3.4)*  |
| Real Assets             | 5   | 42.2  | 26.5  | 42.2   | 26.5  | 0.0   | 0.0   |
| Cash                    | 6   | 0.1   | (0.1)   | 0.1  | (0.1)   | 0.0   | 0.0   |
|                         | Policy (Blend)  MSCI ACWI ex Tobacco  Barclays Aggregate  HFRI FOF  Russell 3000  NFI-ODCE  Real Assets | Policy (Blend) 100  MSCI ACWI ex Tobacco 33  Barclays Aggregate 11  HFRI FOF 21  Russell 3000 16  NFI-ODCE 8  Real Assets 5 | BenchmarkWeight (%)Standalone VolatilityPolicy (Blend)10023.6MSCI ACWI ex Tobacco3327.8Barclays Aggregate1111.6HFRI FOF219.1Russell 30001646.0NFI-ODCE830.2Real Assets542.2 | Benchmark         Weight (%)         Standalone Volatility         QoQ Change           Policy (Blend)         100         23.6         15.2           MSCI ACWI ex Tobacco         33         27.8         15.5           Barclays Aggregate         11         11.6         8.8           HFRI FOF         21         9.1         4.4           Russell 3000         16         46.0         26.8           NFI-ODCE         8         30.2         21.1           Real Assets         5         42.2         26.5 | Benchmark         Weight (%)         Standalone Volatility         QoQ Change         Standalone Volatility           Policy (Blend)         100         23.6         15.2         21.1           MSCI ACWI ex Tobacco         33         27.8         15.5         29.5           Barclays Aggregate         11         11.6         8.8         7.1           HFRI FOF         21         9.1         4.4         8.7           Russell 3000         16         46.0         26.8         30.4           NFI-ODCE         8         30.2         21.1         27.2           Real Assets         5         42.2         26.5         42.2 | Benchmark         Weight (%)         Standalone Volatility         QoQ Change         Standalone Volatility         QoQ Change           Policy (Blend)         100         23.6         15.2         21.1         13.5           MSCI ACWI ex Tobacco         33         27.8         15.5         29.5         17.4           Barclays Aggregate         11         11.6         8.8         7.1         3.8           HFRI FOF         21         9.1         4.4         8.7         6.5           Russell 3000         16         46.0         26.8         30.4         16.8           NFI-ODCE         8         30.2         21.1         27.2         17.7           Real Assets         5         42.2         26.5         42.2         26.5 | Benchmark         Weight (%)         Standalone Volatility         QoQ Change         Standalone Volatility         QoQ Change         Tracking Error           Policy (Blend)         100         23.6         15.2         21.1         13.5         3.2           MSCI ACWI ex Tobacco         33         27.8         15.5         29.5         17.4         2.5           Barclays Aggregate         11         11.6         8.8         7.1         3.8         8.1           HFRI FOF         21         9.1         4.4         8.7         6.5         4.0           Russell 3000         16         46.0         26.8         30.4         16.8         17.8           NFI-ODCE         8         30.2         21.1         27.2         17.7         4.7           Real Assets         5         42.2         26.5         42.2         26.5         0.0 |

<sup>\*</sup> Real Estate risk model changed during 2020 Q1 hence the QoQ change is reflecting the new methodology.

#### Risk: Covid-19 Themes

#### **S&P 500 from January 1, 2020**



We have passed through an acute stage of market dislocation

- A month of jarring market decline and volatility.
- Aggressive and rapid Fed intervention and government stimulus.
- A surprising level of market stability in April, and a market that suggests nothing out of the ordinary in May.

And are facing a period of chronic market risk today

- A bimodal risk picture with prospects that are either very good or very bad: a return to normalcy, or a second wave.
- Asymmetric risk; greater downside potential.

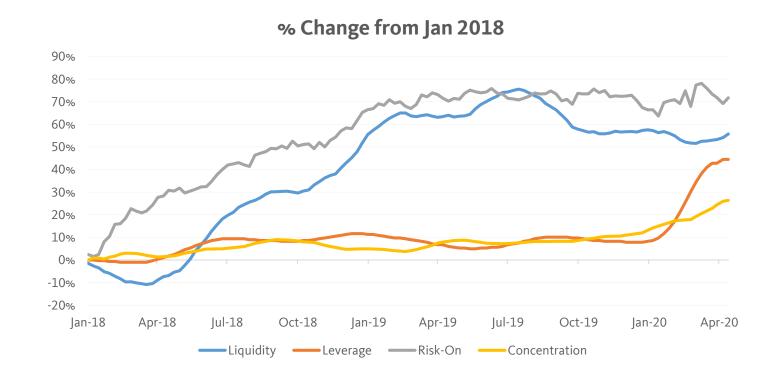
## Risk 3.0: Managing the Dynamics of Market Vulnerability

Well before the Covid crisis, our Risk 3.0 framework indicated market dynamics with underlying vulnerability, e.g.:

- Growing leverage
- Constricted liquidity
- High concentration
- Aggressive risk sentiment

No one could predict when or how an event might strike that vulnerability, but we managed our risk with that in mind.

The market dislocations in March were an anticipated dynamic given the Covid-19 event, although the severity was surprising.



## Blue & Gold Investment Pool

## Blue & Gold Asset Allocation

| As of March 31, 2020 | Market Value<br>(\$B) | Weight (%) | Over/Underweight to Interim Policy (%) | Interim Policy (%) | Long-Term Target (%) |
|----------------------|-----------------------|------------|--|--------------------|----------------------|
| Public Equity        | 1.1                   | 65.3       | (4.7)                                  | 70.0               | 70                   |
| Fixed Income         | 0.6                   | 34.7       | 4.7                                    | 30.0               | 30                   |
| Total                | \$1.7B                | 100.0%     |  | 100.0%             | 100%                 |

## Blue & Gold Asset Allocation

| As of April 30, 2020 | Market Value<br>(\$B) | Weight (%) | Over/Underweight to Interim Policy (%) | Interim Policy<br>(%) | Long-Term Target (%) |
|----------------------|-----------------------|------------|--|-----------------------|----------------------|
| Public Equity        | 1.2                   | 66.1       | (3.9)                                  | 70.0                  | 70                   |
| Fixed Income         | 0.6                   | 33.9       | 3.9                                    | 30.0                  | 30                   |
| Total                | \$1.8B                | 100.0%     |  | 100.0%                | 100%                 |

| As of May 6, 2020 | Market Value<br>(\$B) | Weight (%) | Over/Underweight to Interim Policy (%) | Interim Policy (%) | Long-Term Target (%) |
|-------------------|-----------------------|------------|--|--------------------|----------------------|
| Public Equity     | 0                     | 0          | 0                                      | 70.0               | 70                   |
| Fixed Income      | 0                     | 0          | 0                                      | 30.0               | 30                   |
| Total             | \$0B                  | 0%         |  | 100.0%             | 100%                 |

## Blue & Gold Performance

| As of March 31, 2020<br>Net Returns (%) | Market Value<br>(\$B) | Weight (%) | QTD<br>3 Months | Fiscal YTD<br>9 Months | 1 Year |
|---|-----------------------|------------|-----------------|------------------------|--------|
| Blue & Gold                             | 1.7                   | 100        | (15.0)          | (8.9)                  | (5.7)  |
| Policy Benchmark*                       |                       |            | (15.0)          | (9.1)                  | (6.0)  |
| Value Added                             |                       |            | 0.0             | 0.2                    | 0.3    |
| Growth                                  | 1.1                   | 65         | (22.3)          | (15.2)                 | (12.1) |
| Policy Benchmark*                       |                       |            | (22.5)          | (15.6)                 | (12.7) |
| Value Added                             |                       |            | 0.2             | 0.4                    | 0.6    |
| Income                                  | 0.6                   | 35         | 3.2             | 5.7                    | 8.7    |
| Policy Benchmark*                       |                       |            | 3.2             | 5.7                    | 8.9    |
| Value Added                             |                       |            | 0.0             | 0.0                    | (0.2)  |

<sup>\*</sup>The Blue and Gold Benchmark is a weighted average consisting of each of the monthly returns of the MSCI ACWI Net IMI Tobacco Free and Barclays US Aggregate Bond Index

## Blue & Gold Policy Benchmark

|             |   |        | Allowable Ranges |       |  |
|-------------|---|--------|------------------|-------|--|
| Asset Class | Policy Benchmark Component                          | Target | Min              | Max   |  |
| Growth      | MSCI All Country World Index Net IMI (Tobacco Free) | 70.0%  | 60.0%            | 80.0% |  |
| Income      | Barclays US Aggregate Bond Index                    | 30.0%  | 20.0%            | 40.0% |  |