

As of December 31, 2019

Quarterly Review





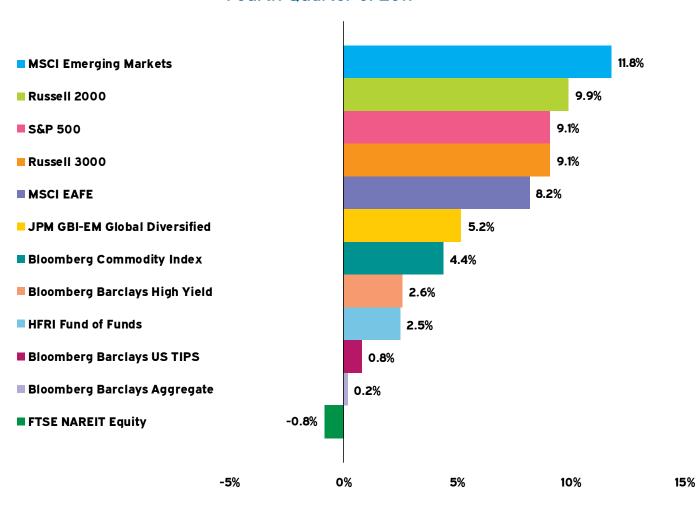
Agenda

- 1. The World Markets in the Fourth Quarter 2019
- 2. Executive Summary
  - Aggregate Plan Overview
  - Manager Highlights
  - Fourth Quarter Manager Summary
  - Watch List
  - Market Environment 4Q19 Overview
- 3. 4Q19 Review
- 4. Glossary and Notes

# The World Markets Fourth Quarter of 2019



# The World Markets<sup>1</sup> Fourth Quarter of 2019



<sup>&</sup>lt;sup>1</sup> Source: InvestorForce.



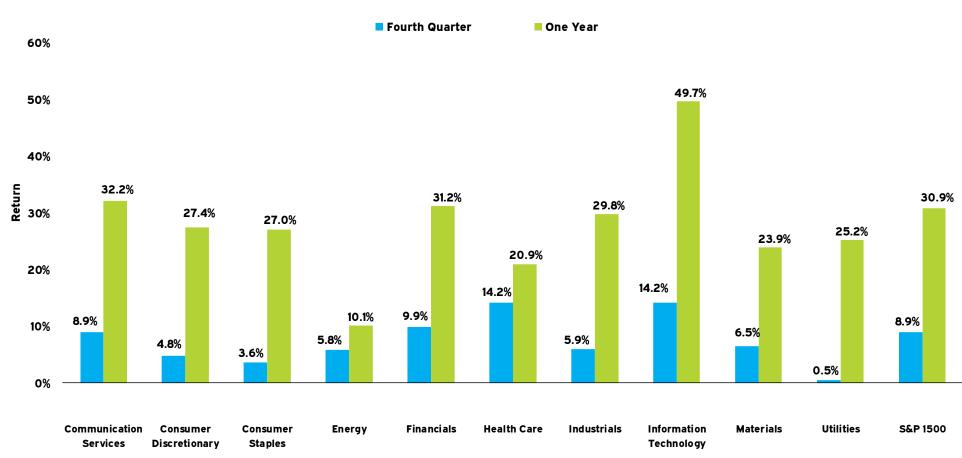
#### Index Returns<sup>1</sup>

SAP 500   9.1   31.5   15.3   11.7   13.6   Russell 3000   9.1   31.0   14.6   11.2   13.4   Russell 1000   9.0   31.4   15.0   11.5   13.5   Russell 1000 Growth   10.6   36.4   20.5   14.6   15.2   Russell 1000 Value   7.4   26.5   9.7   8.3   11.8   Russell MidCap   7.1   30.5   12.1   9.3   13.2   Russell MidCap Growth   8.2   35.5   17.4   11.6   14.2   Russell MidCap Value   6.4   27.1   8.1   7.6   12.4   Russell 2000   9.9   25.5   8.6   8.2   11.8   Russell 2000 Growth   11.4   28.5   12.5   9.3   13.0   Russell 2000 Growth   11.4   28.5   12.5   9.3   13.0   Russell 2000 Value   8.5   22.4   4.8   7.0   10.6   Russell 2000 Value   8.5   22.4   4.8   7.0   10.6   Russell 2000 Growth   11.4   28.5   12.5   9.3   13.0   Russell 2000 Value   8.5   22.4   4.8   7.0   10.6   Russell 2000 Value   8.5   22.4   4.8   7.0   2.5   7.5		<b>4Q19</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Russell 3000 9.1 31.0 14.6 11.2 13.4 Russell 1000 9.0 31.4 15.0 11.5 13.5 Russell 1000 Growth 10.6 36.4 20.5 14.6 15.2 Russell 1000 Value 7.4 26.5 9.7 8.3 11.8 Russell MidCap 7.1 30.5 12.1 9.3 13.2 Russell MidCap Growth 8.2 35.5 17.4 11.6 14.2 Russell MidCap Growth 8.2 35.5 17.4 11.6 14.2 Russell MidCap Value 6.4 27.1 8.1 7.6 12.4 Russell MidCap Value 8.2 35.5 17.4 11.6 14.2 Russell MidCap Value 8.5 22.4 4.8 7.0 10.6 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Value 8.5 22.4 4.8 7.0 10.6 Foreign Equity  MSCI ACWI (ex. US) 8.9 21.5 9.9 5.5 5.0 MSCI EAFE (Local Currency) 5.2 21.7 7.7 6.7 7.2 MSCI EAFE (Local Currency) 5.2 21.7 7.7 6.7 7.2 MSCI EAFE Small Cap 11.5 25.0 10.9 8.9 8.7 MSCI Emerging Markets 11.8 18.4 11.6 5.6 3.7 MSCI Emerging Markets (Local Currency) 9.5 18.1 11.5 7.5 6.1  Fixed Income  Bloomberg Barclays Universal 0.5 9.3 4.3 3.4 4.1 Bloomberg Barclays High Yield 2.6 14.3 6.4 6.1 7.6 JPM GBI-EM Global Diversified 5.2 13.5 7.0 2.8 2.7 Other  FTSE NAREIT Equity 6.8 26.0 8.1 7.2 11.9 Bloomberg Commodity Index 4.4 7.7 6.9 -3.9 -4.7	Domestic Equity					
Russell 1000 Growth 10.6 36.4 20.5 14.6 15.2 Russell 1000 Value 7.4 26.5 9.7 8.3 11.8 Russell MidCap 7.1 30.5 12.1 9.3 13.2 Russell MidCap Forwth 8.2 35.5 17.4 11.6 14.2 Russell MidCap Value 6.4 27.1 8.1 7.6 12.4 Russell MidCap Value 8.2 35.5 17.4 11.6 14.2 Russell Z000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Value 8.5 22.4 4.8 7.0 10.6 Foreign Equity  MSCI ACWI (ex. US) 8.9 21.5 9.9 5.5 5.0 MSCI EAFE (Local Currency) 5.2 21.7 7.7 6.7 7.2 MSCI EAFE (Local Currency) 5.2 21.7 7.7 6.7 7.2 MSCI EAFE (Local Currency) 9.5 18.1 11.5 7.5 6.1 Fixed Income  Bloomberg Barclays Universal 0.5 9.3 4.3 3.4 4.1 Bloomberg Barclays Universal 18.8 8.4 3.3 2.6 3.4 Bloomberg Barclays High Yield 2.6 14.3 6.4 6.1 7.6 JPM GBI-EM Global Diversified 5.2 13.5 7.0 2.8 2.7 Other  FTSE NAREIT Equity -0.8 26.0 8.1 7.2 11.9 Bloomberg Commodity Index 4.4 7.7 -0.9 -3.9 -4.7	S&P 500	9.1	31.5	15.3	11.7	13.6
Russell 1000 Growth   10.6   36.4   20.5   14.6   15.2     Russell MidCap   7.4   26.5   9.7   8.3   11.8     Russell MidCap Growth   8.2   35.5   17.4   11.6   14.2     Russell MidCap Growth   8.2   35.5   17.4   11.6   14.2     Russell MidCap Growth   6.4   27.1   8.1   7.6   12.4     Russell Z000   9.9   25.5   8.6   8.2   11.8     Russell Z000 Growth   11.4   28.5   12.5   9.3   13.0     Russell Z000 Orowth   11.4   28.5   12.5   9.3   13.0     Russell Z000 Value   8.5   22.4   4.8   7.0   10.6     Foreign Equity	Russell 3000	9.1	31.0	14.6	11.2	13.4
Russell MidCap 7.4 26.5 9.7 8.3 11.8 Russell MidCap 7.1 30.5 12.1 9.3 13.2 Russell MidCap Growth 8.2 35.5 17.4 11.6 14.2 Russell MidCap Value 6.4 27.1 8.1 7.6 12.4 Russell MidCap Value 9.9 25.5 8.6 8.2 11.8 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Value 8.5 22.4 4.8 7.0 10.6 Pereign Equity  MSCI ACWI (ex. US) 8.9 21.5 9.9 5.5 5.0 MSCI EAFE MSCI EAFE 8.2 22.0 9.6 5.7 5.5 MSCI EAFE MSCI EAFE MSCI EAFE MSCI EAFE 11.5 25.0 10.9 8.9 8.7 MSCI EAFE Small Cap 11.5 25.0 10.9 8.9 8.7 MSCI Emerging Markets (Local Currency) 9.5 18.1 11.5 7.5 6.1 Fixed Income  Bloomberg Barclays Universal 9.5 9.3 4.3 3.4 4.1 Bloomberg Barclays Aggregate 0.2 8.7 4.0 3.0 3.7 Bloomberg Barclays Universal 0.5 9.3 4.3 3.4 4.1 Bloomberg Barclays Universal 0.6 14.3 6.4 6.1 7.6 JPM GBI-EM Global Diversified 5.2 13.5 7.0 2.8 2.7 Other  FTSE NAREIT Equity -0.8 26.0 8.1 7.2 11.9 Bloomberg Commodity Index 4.4 7.7 -0.9 -3.9 -4.7	Russell 1000	9.0	31.4	15.0	11.5	13.5
Russell MidCap 7.1 30.5 12.1 9.3 13.2 Russell MidCap Growth 8.2 35.5 17.4 11.6 14.2 Russell MidCap Value 6.4 27.1 8.1 7.6 12.4 Russell MidCap Value 6.4 27.1 8.1 7.6 12.4 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Value 8.5 22.4 4.8 7.0 10.6 Foreign Equity  MSCI ACWI (ex. US) 8.9 21.5 9.9 5.5 5.0 MSCI EAFE 8.2 22.0 9.6 5.7 5.5 MSCI EAFE 8.2 22.0 9.6 5.7 5.5 MSCI EAFE 11.5 25.0 10.9 8.9 8.7 MSCI EAFE Small Cap 11.5 25.0 10.9 8.9 8.7 MSCI Emerging Markets 11.8 18.4 11.6 5.6 3.7 MSCI Emerging Markets (Local Currency) 9.5 18.1 11.5 7.5 6.1 Fixed Income  Bloomberg Barclays Universal 0.5 9.3 4.3 3.4 4.1 Bloomberg Barclays Local Currency 9.8 8.4 3.3 2.6 3.4 Bloomberg Barclays High Yield 2.6 14.3 6.4 6.1 7.6 JPM GBI-EM Global Diversified 5.2 13.5 7.0 2.8 2.7 Other  FTSE NAREIT Equity 5.0 8 26.0 8.1 7.2 11.9 Bloomberg Commodity Index 4.4 7.7 5.9 -3.9 -4.7	Russell 1000 Growth	10.6	36.4	20.5	14.6	15.2
Russell MidCap Growth   8.2   35.5   17.4   11.6   14.2     Russell MidCap Value   6.4   27.1   8.1   7.6   12.4     Russell 2000   9.9   25.5   8.6   8.2   11.8     Russell 2000 Growth   11.4   28.5   12.5   9.3   13.0     Russell 2000 Value   8.5   22.4   4.8   7.0   10.6     Foreign Equity	Russell 1000 Value	7.4	26.5	9.7	8.3	11.8
Russell MidCap Value 6.4 27.1 8.1 7.6 12.4 Russell 2000 9.9 25.5 8.6 8.2 11.8 Russell 2000 Growth 11.4 28.5 12.5 9.3 13.0 Russell 2000 Value 8.5 22.4 4.8 7.0 10.6 Foreign Equity  MSCI ACWI (ex. US) 8.9 21.5 9.9 5.5 5.0 MSCI EAFE (Local Currency) 5.2 21.7 7.7 6.7 7.2 MSCI EAFE Small Cap 11.5 25.0 10.9 8.9 8.7 MSCI Emerging Markets 11.8 18.4 11.6 5.6 3.7 MSCI Emerging Markets (Local Currency) 9.5 18.1 11.5 7.5 6.1 Fixed Income  Bloomberg Barclays Universal 0.5 9.3 4.3 3.4 4.1 Bloomberg Barclays Universal 0.5 8.4 3.3 2.6 3.4 Bloomberg Barclays High Yield 2.6 14.3 6.4 6.1 7.6 JPM GBI-EM Global Diversified 5.2 13.5 7.0 2.8 2.7 Other  FTSE NAREIT Equity -0.8 26.0 8.1 7.2 11.9 Bloomberg Commodity Index 4.4 7.7 -0.9 -3.9 -4.7	Russell MidCap	7.1	30.5	12.1	9.3	13.2
Russell 2000       9.9       25.5       8.6       8.2       11.8         Russell 2000 Growth Russell 2000 Value       11.4       28.5       12.5       9.3       13.0         Russell 2000 Value       8.5       22.4       4.8       7.0       10.6         Foreign Equity         MSCI ACWI (ex. US)       8.9       21.5       9.9       5.5       5.0         MSCI EAFE       8.2       22.0       9.6       5.7       5.5         MSCI EAFE (Local Currency)       5.2       21.7       7.7       6.7       7.2         MSCI EAFE Small Cap       11.5       25.0       10.9       8.9       8.7         MSCI Emerging Markets       11.8       18.4       11.6       5.6       3.7         MSCI Emerging Markets (Local Currency)       9.5       18.1       11.5       7.5       6.1         Fixed Income         Bloomberg Barclays Universal       0.5       9.3       4.3       3.4       4.1         Bloomberg Barclays Aggregate       0.2       8.7       4.0       3.0       3.7         Bloomberg Barclays High Yield       2.6       14.3       6.4       6.1       7.6         JPM GBI-EM Global Diversified </td <td>Russell MidCap Growth</td> <td>8.2</td> <td>35.5</td> <td>17.4</td> <td>11.6</td> <td>14.2</td>	Russell MidCap Growth	8.2	35.5	17.4	11.6	14.2
Russell 2000 Growth   11.4   28.5   12.5   9.3   13.0   Russell 2000 Value   8.5   22.4   4.8   7.0   10.6	Russell MidCap Value	6.4	27.1	8.1	7.6	12.4
Russell 2000 Value       8.5       22.4       4.8       7.0       10.6         Foreign Equity         MSCI ACWI (ex. US)       8.9       21.5       9.9       5.5       5.0         MSCI EAFE       8.2       22.0       9.6       5.7       5.5         MSCI EAFE (Local Currency)       5.2       21.7       7.7       6.7       7.2         MSCI EAFE Small Cap       11.5       25.0       10.9       8.9       8.7         MSCI Emerging Markets       11.8       18.4       11.6       5.6       3.7         MSCI Emerging Markets (Local Currency)       9.5       18.1       11.5       7.5       6.1         Fixed Income         Bloomberg Barclays Universal       0.5       9.3       4.3       3.4       4.1         Bloomberg Barclays Aggregate       0.2       8.7       4.0       3.0       3.7         Bloomberg Barclays US TIPS       0.8       8.4       3.3       2.6       3.4         Bloomberg Barclays High Yield       2.6       14.3       6.4       6.1       7.6         JPM GBI-EM Global Diversified       5.2       13.5       7.0       2.8       2.7         Other </td <td>Russell 2000</td> <td>9.9</td> <td>25.5</td> <td>8.6</td> <td>8.2</td> <td>11.8</td>	Russell 2000	9.9	25.5	8.6	8.2	11.8
MSCI ACWI (ex. US)   8.9   21.5   9.9   5.5   5.0     MSCI EAFE   8.2   22.0   9.6   5.7   5.5     MSCI EAFE (Local Currency)   5.2   21.7   7.7   6.7   7.2     MSCI EAFE Small Cap   11.5   25.0   10.9   8.9   8.7     MSCI Emerging Markets   11.8   18.4   11.6   5.6   3.7     MSCI Emerging Markets (Local Currency)   9.5   18.1   11.5   7.5   6.1     Fixed Income   Bloomberg Barclays Universal   0.5   9.3   4.3   3.4   4.1     Bloomberg Barclays Aggregate   0.2   8.7   4.0   3.0   3.7     Bloomberg Barclays US TIPS   0.8   8.4   3.3   2.6   3.4     Bloomberg Barclays High Yield   2.6   14.3   6.4   6.1   7.6     JPM GBI-EM Global Diversified   5.2   13.5   7.0   2.8   2.7      Other   TSE NAREIT Equity   -0.8   26.0   8.1   7.2   11.9     Bloomberg Commodity Index   4.4   7.7   -0.9   -3.9   -4.7	Russell 2000 Growth	11.4	28.5	12.5	9.3	13.0
MSCI ACWI (ex. US)       8.9       21.5       9.9       5.5       5.0         MSCI EAFE       8.2       22.0       9.6       5.7       5.5         MSCI EAFE (Local Currency)       5.2       21.7       7.7       6.7       7.2         MSCI EAFE Small Cap       11.5       25.0       10.9       8.9       8.7         MSCI Emerging Markets       11.8       18.4       11.6       5.6       3.7         MSCI Emerging Markets (Local Currency)       9.5       18.1       11.5       7.5       6.1         Fixed Income         Bloomberg Barclays Universal       0.5       9.3       4.3       3.4       4.1         Bloomberg Barclays Aggregate       0.2       8.7       4.0       3.0       3.7         Bloomberg Barclays US TIPS       0.8       8.4       3.3       2.6       3.4         Bloomberg Barclays High Yield       2.6       14.3       6.4       6.1       7.6         JPM GBI-EM Global Diversified       5.2       13.5       7.0       2.8       2.7         Other         FTSE NAREIT Equity       -0.8       26.0       8.1       7.2       11.9         FTSE NAREIT Equ	Russell 2000 Value	8.5	22.4	4.8	7.0	10.6
MSCI EAFE       8.2       22.0       9.6       5.7       5.5         MSCI EAFE (Local Currency)       5.2       21.7       7.7       6.7       7.2         MSCI EAFE Small Cap       11.5       25.0       10.9       8.9       8.7         MSCI Emerging Markets       11.8       18.4       11.6       5.6       3.7         MSCI Emerging Markets (Local Currency)       9.5       18.1       11.5       7.5       6.1         Fixed Income         Bloomberg Barclays Universal       0.5       9.3       4.3       3.4       4.1         Bloomberg Barclays Aggregate       0.2       8.7       4.0       3.0       3.7         Bloomberg Barclays US TIPS       0.8       8.4       3.3       2.6       3.4         Bloomberg Barclays High Yield       2.6       14.3       6.4       6.1       7.6         JPM GBI-EM Global Diversified       5.2       13.5       7.0       2.8       2.7         Other         FTSE NAREIT Equity       -0.8       26.0       8.1       7.2       11.9         Bloomberg Commodity Index       4.4       7.7       -0.9       -3.9       -4.7	Foreign Equity					
MSCI EAFE (Local Currency)       5.2       21.7       7.7       6.7       7.2         MSCI EAFE Small Cap       11.5       25.0       10.9       8.9       8.7         MSCI Emerging Markets       11.8       18.4       11.6       5.6       3.7         MSCI Emerging Markets (Local Currency)       9.5       18.1       11.5       7.5       6.1         Fixed Income         Bloomberg Barclays Universal       0.5       9.3       4.3       3.4       4.1         Bloomberg Barclays Aggregate       0.2       8.7       4.0       3.0       3.7         Bloomberg Barclays US TIPS       0.8       8.4       3.3       2.6       3.4         Bloomberg Barclays High Yield       2.6       14.3       6.4       6.1       7.6         JPM GBI-EM Global Diversified       5.2       13.5       7.0       2.8       2.7         Other         FTSE NAREIT Equity       -0.8       26.0       8.1       7.2       11.9         Bloomberg Commodity Index       4.4       7.7       -0.9       -3.9       -4.7	MSCI ACWI (ex. US)	8.9	21.5	9.9	5.5	5.0
MSCI EAFE Small Cap         11.5         25.0         10.9         8.9         8.7           MSCI Emerging Markets         11.8         18.4         11.6         5.6         3.7           MSCI Emerging Markets (Local Currency)         9.5         18.1         11.5         7.5         6.1           Fixed Income           Bloomberg Barclays Universal         0.5         9.3         4.3         3.4         4.1           Bloomberg Barclays Aggregate         0.2         8.7         4.0         3.0         3.7           Bloomberg Barclays US TIPS         0.8         8.4         3.3         2.6         3.4           Bloomberg Barclays High Yield         2.6         14.3         6.4         6.1         7.6           JPM GBI-EM Global Diversified         5.2         13.5         7.0         2.8         2.7           Other           FTSE NAREIT Equity         -0.8         26.0         8.1         7.2         11.9           Bloomberg Commodity Index         4.4         7.7         -0.9         -3.9         -4.7	MSCI EAFE	8.2	22.0	9.6	5.7	5.5
MSCI Emerging Markets         11.8         18.4         11.6         5.6         3.7           MSCI Emerging Markets (Local Currency)         9.5         18.1         11.5         7.5         6.1           Fixed Income           Bloomberg Barclays Universal         0.5         9.3         4.3         3.4         4.1           Bloomberg Barclays Aggregate         0.2         8.7         4.0         3.0         3.7           Bloomberg Barclays US TIPS         0.8         8.4         3.3         2.6         3.4           Bloomberg Barclays High Yield         2.6         14.3         6.4         6.1         7.6           JPM GBI-EM Global Diversified         5.2         13.5         7.0         2.8         2.7           Other           FTSE NAREIT Equity         -0.8         26.0         8.1         7.2         11.9           Bloomberg Commodity Index         4.4         7.7         -0.9         -3.9         -4.7	MSCI EAFE (Local Currency)	5.2	21.7	7.7	6.7	7.2
MSCI Emerging Markets (Local Currency)         9.5         18.1         11.5         7.5         6.1           Fixed Income           Bloomberg Barclays Universal         0.5         9.3         4.3         3.4         4.1           Bloomberg Barclays Aggregate         0.2         8.7         4.0         3.0         3.7           Bloomberg Barclays US TIPS         0.8         8.4         3.3         2.6         3.4           Bloomberg Barclays High Yield         2.6         14.3         6.4         6.1         7.6           JPM GBI-EM Global Diversified         5.2         13.5         7.0         2.8         2.7           Other           FTSE NAREIT Equity         -0.8         26.0         8.1         7.2         11.9           Bloomberg Commodity Index         4.4         7.7         -0.9         -3.9         -4.7	MSCI EAFE Small Cap	11.5	25.0	10.9	8.9	8.7
Fixed Income           Bloomberg Barclays Universal         0.5         9.3         4.3         3.4         4.1           Bloomberg Barclays Aggregate         0.2         8.7         4.0         3.0         3.7           Bloomberg Barclays US TIPS         0.8         8.4         3.3         2.6         3.4           Bloomberg Barclays High Yield         2.6         14.3         6.4         6.1         7.6           JPM GBI-EM Global Diversified         5.2         13.5         7.0         2.8         2.7           Other           FTSE NAREIT Equity         -0.8         26.0         8.1         7.2         11.9           Bloomberg Commodity Index         4.4         7.7         -0.9         -3.9         -4.7	MSCI Emerging Markets	11.8	18.4	11.6	5.6	3.7
Bloomberg Barclays Universal       0.5       9.3       4.3       3.4       4.1         Bloomberg Barclays Aggregate       0.2       8.7       4.0       3.0       3.7         Bloomberg Barclays US TIPS       0.8       8.4       3.3       2.6       3.4         Bloomberg Barclays High Yield       2.6       14.3       6.4       6.1       7.6         JPM GBI-EM Global Diversified       5.2       13.5       7.0       2.8       2.7         Other         FTSE NAREIT Equity       -0.8       26.0       8.1       7.2       11.9         Bloomberg Commodity Index       4.4       7.7       -0.9       -3.9       -4.7	MSCI Emerging Markets (Local Currency)	9.5	18.1	11.5	7.5	6.1
Bloomberg Barclays Aggregate         0.2         8.7         4.0         3.0         3.7           Bloomberg Barclays US TIPS         0.8         8.4         3.3         2.6         3.4           Bloomberg Barclays High Yield         2.6         14.3         6.4         6.1         7.6           JPM GBI-EM Global Diversified         5.2         13.5         7.0         2.8         2.7           Other           FTSE NAREIT Equity         -0.8         26.0         8.1         7.2         11.9           Bloomberg Commodity Index         4.4         7.7         -0.9         -3.9         -4.7	Fixed Income					
Bloomberg Barclays US TIPS       0.8       8.4       3.3       2.6       3.4         Bloomberg Barclays High Yield       2.6       14.3       6.4       6.1       7.6         JPM GBI-EM Global Diversified       5.2       13.5       7.0       2.8       2.7         Other         FTSE NAREIT Equity       -0.8       26.0       8.1       7.2       11.9         Bloomberg Commodity Index       4.4       7.7       -0.9       -3.9       -4.7	Bloomberg Barclays Universal	0.5	9.3	4.3	3.4	4.1
Bloomberg Barclays High Yield       2.6       14.3       6.4       6.1       7.6         JPM GBI-EM Global Diversified       5.2       13.5       7.0       2.8       2.7         Other         FTSE NAREIT Equity       -0.8       26.0       8.1       7.2       11.9         Bloomberg Commodity Index       4.4       7.7       -0.9       -3.9       -4.7	Bloomberg Barclays Aggregate	0.2	8.7	4.0	3.0	3.7
JPM GBI-EM Global Diversified         5.2         13.5         7.0         2.8         2.7           Other           FTSE NAREIT Equity         -0.8         26.0         8.1         7.2         11.9           Bloomberg Commodity Index         4.4         7.7         -0.9         -3.9         -4.7	Bloomberg Barclays US TIPS	8.0	8.4	3.3	2.6	3.4
Other           FTSE NAREIT Equity         -0.8         26.0         8.1         7.2         11.9           Bloomberg Commodity Index         4.4         7.7         -0.9         -3.9         -4.7	Bloomberg Barclays High Yield	2.6	14.3	6.4	6.1	7.6
FTSE NAREIT Equity         -0.8         26.0         8.1         7.2         11.9           Bloomberg Commodity Index         4.4         7.7         -0.9         -3.9         -4.7	JPM GBI-EM Global Diversified	5.2	13.5	7.0	2.8	2.7
Bloomberg Commodity Index 4.4 7.7 -0.9 -3.9 -4.7	Other					
	FTSE NAREIT Equity	-0.8	26.0	8.1	7.2	11.9
HFRI Fund of Funds 2.5 7.8 3.7 2.2 2.8	Bloomberg Commodity Index	4.4	7.7	-0.9	-3.9	-4.7
	HFRI Fund of Funds	2.5	7.8	3.7	2.2	2.8

<sup>&</sup>lt;sup>1</sup> Source: InvestorForce.



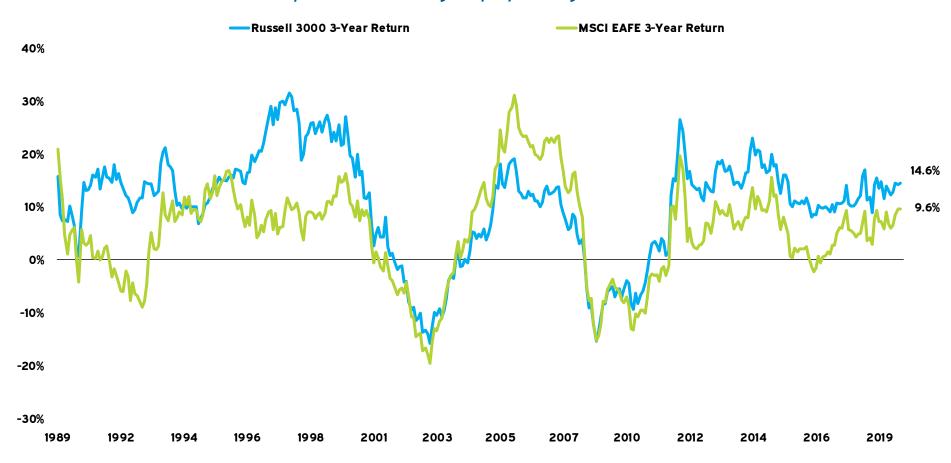




<sup>&</sup>lt;sup>1</sup> Source: InvestorForce. Represents S&P 1500 (All Cap) data.



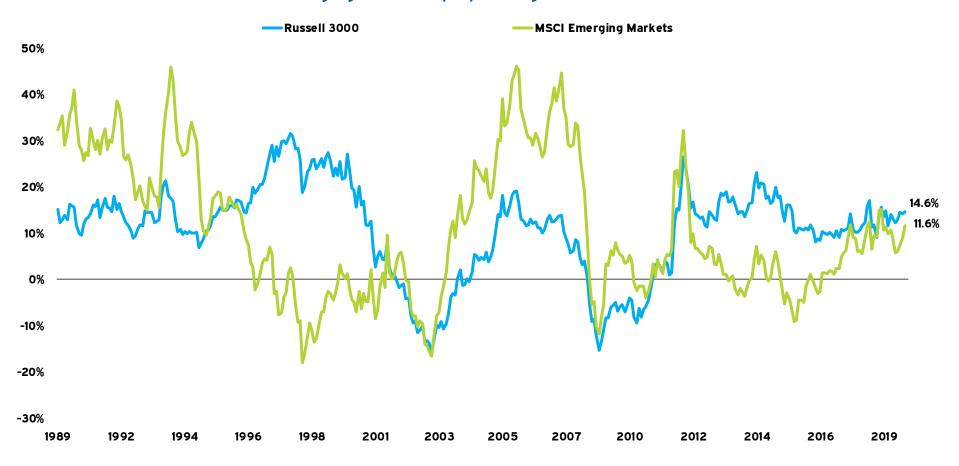
# US and Developed Market Foreign Equity Rolling Three-Year Returns<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Source: InvestorForce.



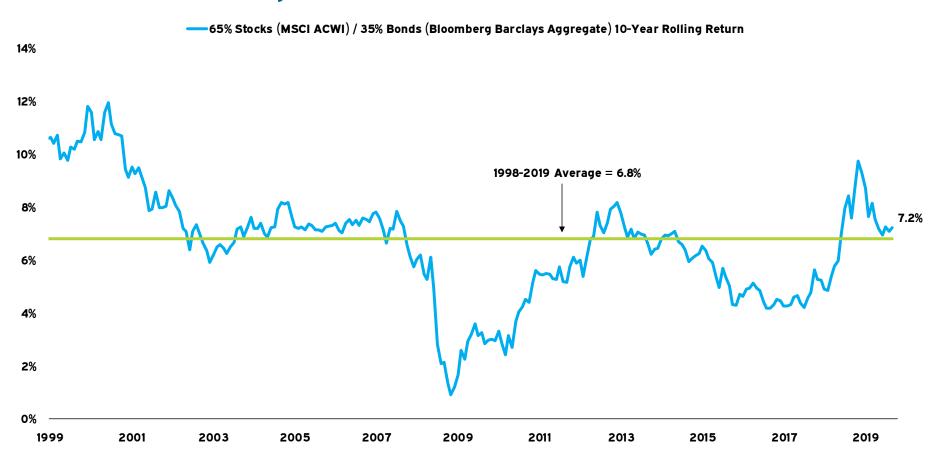
# US and Emerging Market Equity Rolling Three-Year Returns<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Source: InvestorForce.



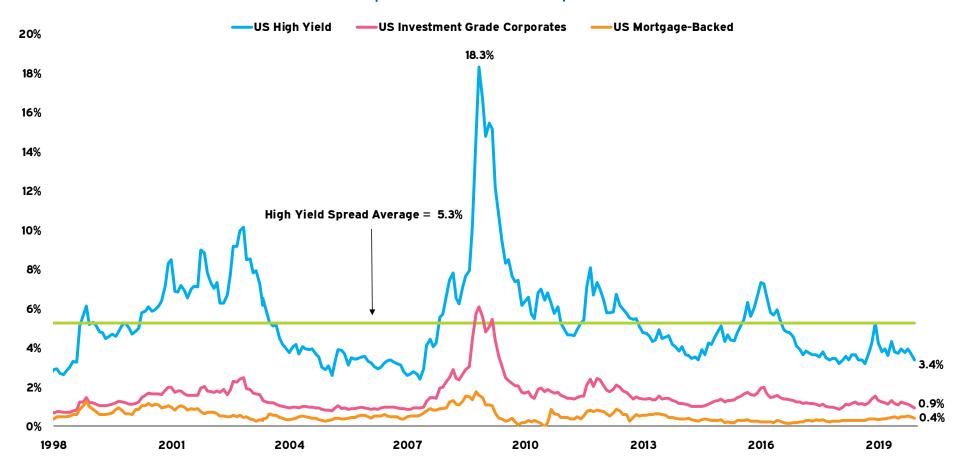
# Rolling Ten-Year Returns: 65% Stocks and 35% Bonds<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Source: InvestorForce.



### Credit Spreads vs. US Treasury Bonds<sup>1,2</sup>

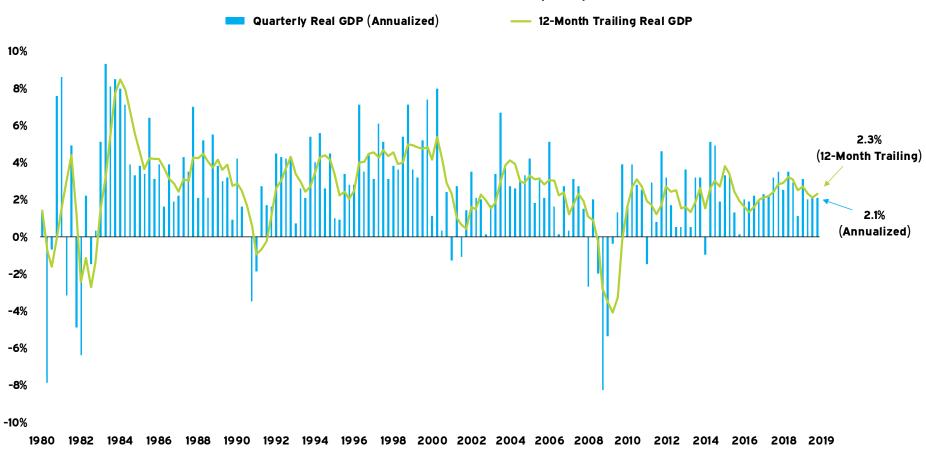


<sup>&</sup>lt;sup>1</sup> Source: Barclays Live. Data represents the OAS.

<sup>&</sup>lt;sup>2</sup> The median high yield spread was 4.7% from 1997-2019.



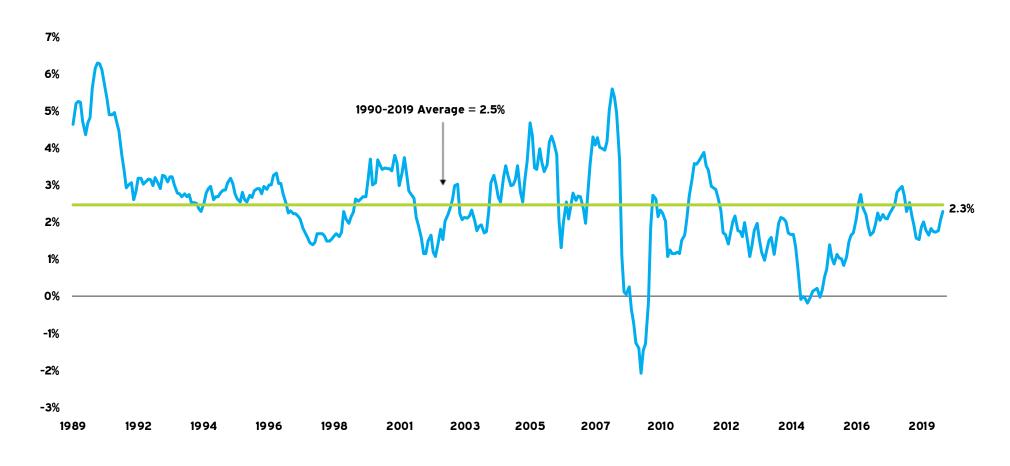
# US Real Gross Domestic Product (GDP) Growth<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Source: Bureau of Economic Analysis. Data is as of Q4 2019 and represents the first estimate.



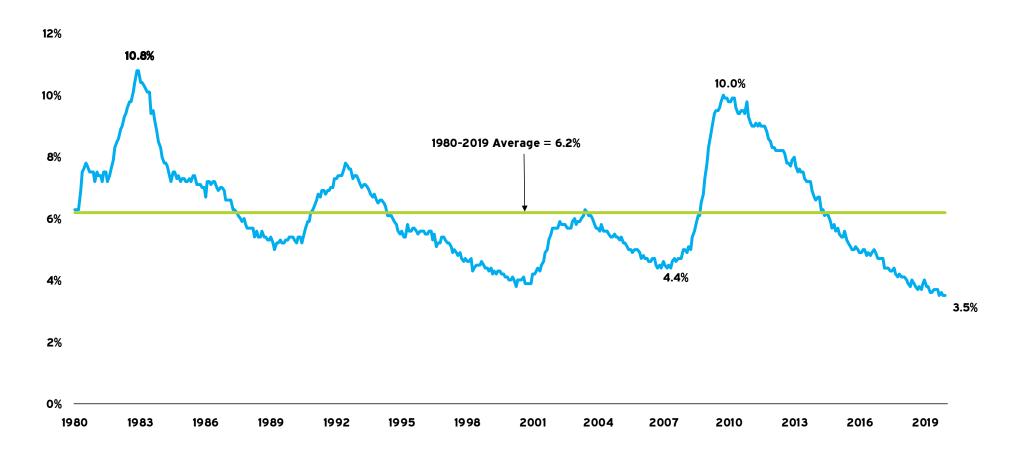
# US Inflation (CPI) Trailing Twelve Months<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Source: Bureau of Labor Statistics. Data is non-seasonally adjusted CPI, which may be volatile in the short-term. Data is as of December 31, 2019.



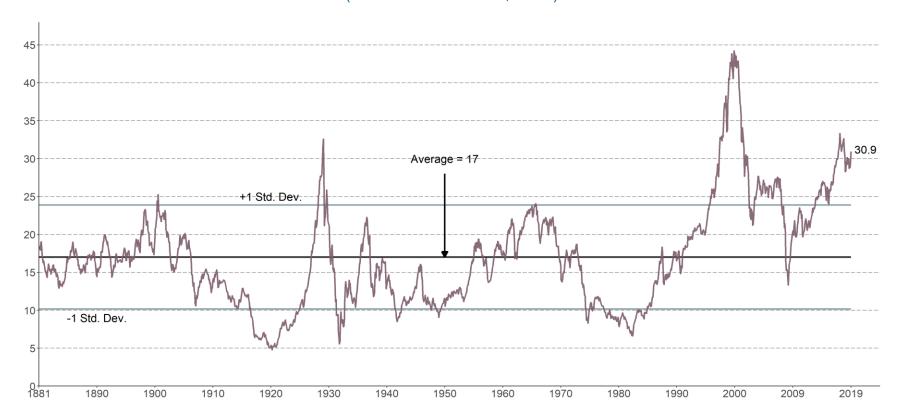
# US Unemployment<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Source: Bureau of Labor Statistics. Data is as of December 31, 2019.



# US Equity Cyclically Adjusted P/E<sup>1</sup> (As of December 31, 2019)

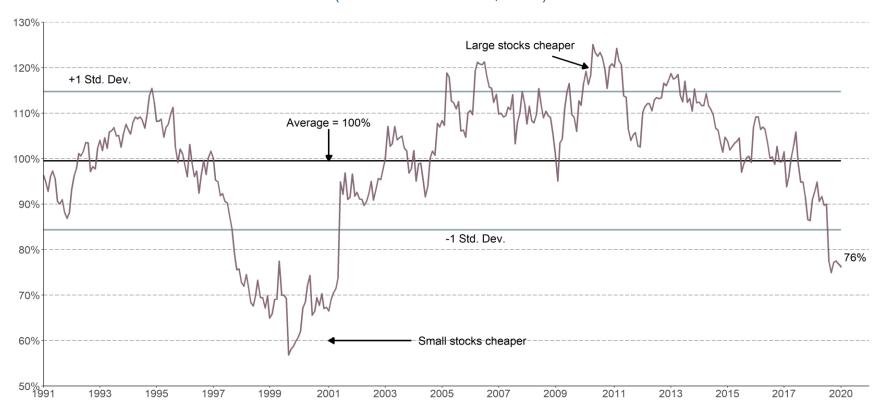


• This chart details one valuation metric for US equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

<sup>&</sup>lt;sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index – Source: Robert Shiller, Yale University and Meketa Investment Group.



# Small Cap P/E vs. Large Cap P/E<sup>1</sup> (As of December 31, 2019)



• This chart compares the relative attractiveness of small cap US equities vs. large cap US equities on a valuation basis. A higher (lower) figure indicates that large cap (small cap) is more attractive.

<sup>&</sup>lt;sup>1</sup> Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month "as reported" earnings.



# Emerging Market Equity Cyclically Adjusted P/E<sup>1</sup> (As of December 31, 2019)



• This chart details one valuation metric for emerging markets equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

<sup>&</sup>lt;sup>1</sup> Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.

# Executive Summary As of December 31, 2019



**Aggregate Plan Overview** 

The value of the City of San Jose Police & Fire Department Retirement Plan's assets was \$3.8 billion on December 31, 2019, an increase of approximately \$164.6 million from the end of the prior quarter. The Plan had net cash outflows of \$13.2 million during the quarter.

- The Retirement Plan's net of fees performance for the quarter was +4.8%, compared to the Policy Benchmark (+5.0%), Investable Benchmark Portfolio (+5.9%), and the peer median return (+5.2%).
- The Retirement Plan returned +13.9% over the trailing one-year period, outperforming the Policy Benchmark (+13.4%), and underperforming the Investable Benchmark Portfolio (+15.8%) and the peer median return of +17.1%. The Retirement Plan's standard deviation of returns was 5.1% over the trailing one-year period, exhibiting much lower volatility than the peer median (6.8%).
  - Growth returned +7.2% for the quarter and +20.3% over the trailing one-year period, versus +7.7% and +20.7% for the Growth Benchmark over the same periods, respectively.
  - Zero Beta returned +0.8% for the quarter and +3.9% over the trailing one-year period, versus
     +0.5% and +2.5% for the Zero Beta Benchmark over the same periods, respectively.
  - Other returned +1.2% for the quarter and +6.4% over the trailing one-year period, versus +1.6% and
     +5.8% for the Other Benchmark over the same periods, respectively.
- The Retirement Plan did not add any investment managers during the quarter. During the quarter, the Retirement Plan terminated American Core Realty Fund (Core Real Estate), Beach Point Total Return Fund II (High Yield), Marshall Wace Eureka Fund (Marketable Alternative Equity), and Sandler Plus Offshore Fund (Marketable Alternative Equity).



Manager Highlights

#### Artisan

• Artisan Global Value returned +8.2% for the quarter, outperforming the MSCI ACWI Value NR USD benchmark by 60 basis points. Compared to peers, Artisan ranks in the 58th and 29th percentiles for the quarter and since inception periods, respectively. The portfolio's relative outperformance in the quarter was driven primarily by security selection.

#### **Cove Street**

• Cove Street Small Cap Value returned +8.7% for the quarter and +25.2% over the trailing one-year period, outperforming the Russell 2000 Value benchmark by 20 and 280 basis points over the same time periods, respectively. Compared to peers, Cove Street ranks in the 30th and 14th percentiles for the quarter and since inception periods, respectively. The largest contributor to portfolio returns in the quarter came from a healthcare holding which made an acquisition that is showing strong results.

#### Oberweis

• Oberweis International Opportunities returned +8.1% for the quarter and +24.7% over the trailing one-year period, underperforming the MSCI World ex USA Small Cap Growth benchmark by 350 and 350 basis points over the same time periods, respectively. Compared to peers, Oberweis ranks in the 83rd and 33rd percentiles for the quarter and since inception periods, respectively. The largest detractor to portfolio returns for the year (-54.9% and detracted 229 bps) came from a specialty finance company holding which was the subject of a short sale report by a US hedge fund.

#### **RWC**

• RWC Emerging Markets Equity returned +11.3% for the quarter, versus an +11.8% return for the MSCI Emerging Markets benchmark. Since inception in September 2019, RWC has outperformed the benchmark by 40 basis points and ranks in the 29th percentile compared to peers.



#### Fourth Quarter Manager Summary

Investment Manager	Asset Class	Changes/ Announcements	Meketa Recommendation¹	Comments
Artisan Global Value	Global Equity			
Artisan Global Opportunities	Global Equity	Yes	Hold	Personnel Changes
Cove Street Small Cap Value	US Equity			
Oberweis International Opps.	International Equity		Hold	Watch List
Dimensional EM Value	Emerging Markets Equity	Yes	Hold	Personnel Changes
GQG Partners Global EM	Emerging Markets Equity	Yes	Hold	Organizational Update
RWC Emerging Markets Equity	Emerging Markets Equity	Yes	Hold	Ownership Changes
Wellington EM Systematic	Emerging Markets Equity			
Senator Global Opportunity	Long-Short Equity			
BlueBay EM Select Debt	Emerging Markets Debt		Hold	Watch List
Iguazu Partners LP Fund	Emerging Markets Debt			
Credit Suisse Risk Parity	Commodities			

<sup>&</sup>lt;sup>1</sup> The Meketa Investment Group recommendations are based on organizational or resource changes at each manager.



**Watch List** 

#### Watch List<sup>1,2</sup>

Investment Manager	Asset Class	Watch List Status	Comments
Oberweis International Opps	International Equity	Monitoring	Underperformance
BlueBay EM Select Debt	Emerging Markets Debt	Monitoring	Underperformance

<sup>&</sup>lt;sup>1</sup> Watch List excludes Private Markets and Passive Funds.

<sup>&</sup>lt;sup>2</sup> Placement on the Watch List includes qualitative reasons and manager underperformance versus the appropriate benchmark over a three and or five year period as outlined in the Investment Policy Statement.



Fourth Quarter Manager Summary

#### Artisan

 Artisan's Growth team announced the promotion of two investment professionals to Associate Portfolio Managers.

#### Oberweis

• Over the three-year period, Oberweis (+11.0%) has underperformed the MSCI World ex USA Small Cap Growth by 120 basis points. Since inception in March 2014, Oberweis has underperformed the benchmark by 60 basis points per year, on average, and ranked in the 33rd percentile compared to peers.

#### Dimensional

• Dimensional employs a team approach in all aspects of the firm's management. There were four departures from the portfolio management team in the quarter.

#### GQG

 In November 2019, GQG Partners announced the initiation of a soft close in the Emerging Markets Equity strategy at \$10 billion in AUM, with the strategy managing approximately \$9.3 billion as of the end of the fourth quarter. Current investors, including the Retirement System, are not subject to the soft close and can still contribute funds.

#### **RWC**

• In October 2019, RWC notified investors that Schroders is selling their minority equity interest in RWC Partners back to RWC and to Lincoln Peak Capital. After the transaction closes, Lincoln Peak would own roughly 28% of RWC's equity with RWC's people owning the remainder.

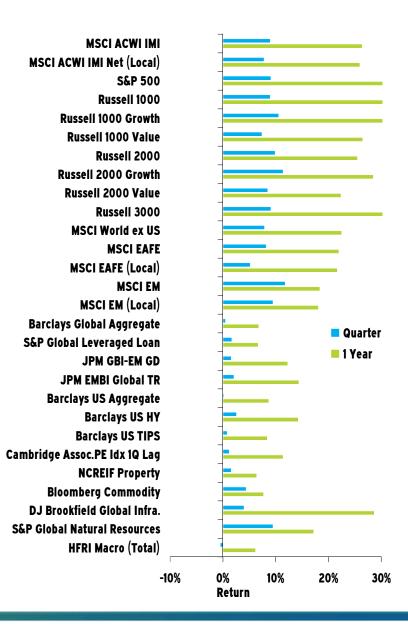
#### BlueBay

• Over the three-year period, BlueBay (+5.9%) has underperformed the JPM Blended Emerging Markets Index by 100 basis points. Since inception in August 2013, BlueBay (+1.9%) has underperformed the blended benchmark by 180 basis points per year, on average, and ranked in the 72nd percentile compared to peers.



#### Market Environment - 4Q19 Overview

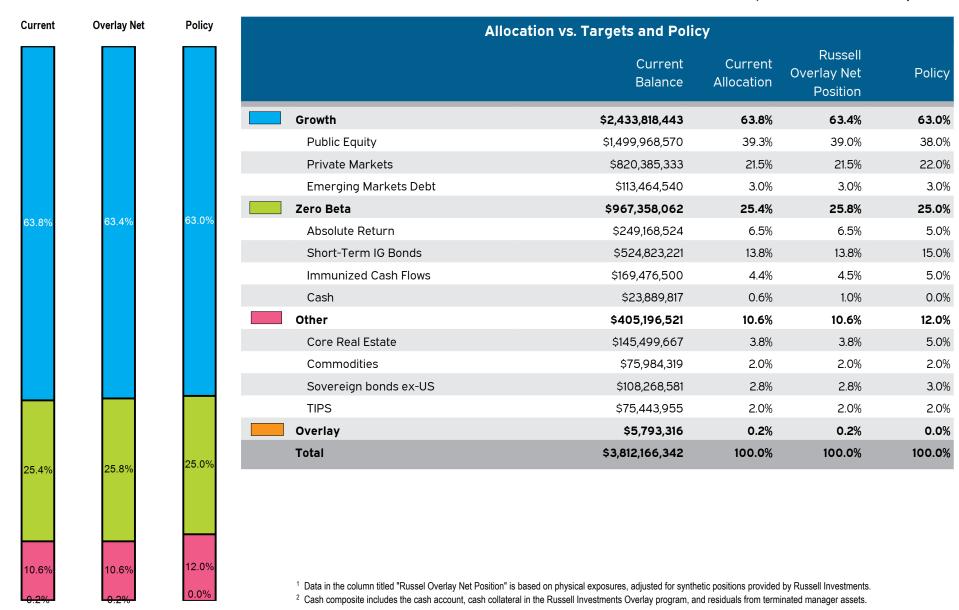
Paradous ed.	S	4Q19	1 YR	3 YR	5YR	10 YR
Benchmark	Scope	(%)	(%)	(%)	(%)	(%)
Global Equity	W 11	9.0	26.4	12.1	8.3	8.9
MSCI ACWI IMI	World	7.8	26.4	11.4	9.0	9.9
MSCI ACWI IMI Net (Local)	World (Local Currency)	1.0	20.0	11.4	9.0	9.9
Domestic Equity		0.4	24.5	45.0	44.7	40.0
S&P 500	Large Core	9.1	31.5	15.3	11.7	13.6
Russell 1000	Large Core	9.0	31.4	15.0	11.5	13.5
Russell 1000 Growth	Large Growth	10.6	36.4	20.5	14.6	15.2
Russell 1000 Value	Large Value	7.4	26.5	9.7	8.3	11.8
Russell 2000	Small Core	9.9	25.5	8.6	8.2	11.8
Russell 2000 Growth	Small Growth	11.4	28.5	12.5	9.3	13.0
Russell 2000 Value	Small Value	8.5	22.4	4.8	7.0	10.6
Russell 3000	All Cap Core	9.1	31.0	14.6	11.2	13.4
International Equity						
MSCI World ex US	World ex-US	7.9	22.5	9.3	5.4	5.3
MSCI EAFE	International Developed	8.2	22.0	9.6	5.7	5.5
MSCI EAFE (Local)	International Developed	5.2	21.7	7.7	6.7	7.2
	(Local Currency)					
MSCI EM	Emerging Markets	11.8	18.4	11.6	5.6	3.7
MSCI EM (Local)	Emerging Markets	9.5	18.1	11.5	7.5	6.1
	(Local Currency)					
Global Fixed Income						
Barclays Global Aggregate	Global Core Bonds	0.5	6.8	4.3	2.3	2.5
S&P Global Leveraged Loan	Bank Loans	1.7	6.7	4.4	3.9	4.7
JPM GBI-EM GD	Emerging Markets Bonds	1.6	12.3	8.3	7.5	7.8
	(Local Currency)					
JPM EMBI Global TR	Emerging Market Bonds	2.1	14.4	6.1	5.9	6.6
Domestic Fixed Income						
Barclays US Aggregate	Core Bonds	0.2	8.7	4.0	3.0	3.7
Barclays US HY	High Yield	2.6	14.3	6.4	6.1	7.6
Barclays US TIPS	Inflation	8.0	8.4	3.3	2.6	3.4
Other						
Cambridge Assoc. PE Index 1Q Lag	Private Equity	1.2	11.4	16.1	13.9	14.7
NCREIF Property	Real Estate	1.6	6.4	6.7	8.2	10.2
Bloomberg Commodity	Commodities	4.4	7.7	-0.9	-3.9	-4.7
DJ Brookfield Global Infrastructure	Infrastructure	4.0	28.7	11.1	5.7	10.2
S&P Global Natural Resources	Natural Resources	9.5	17.2	7.9	4.8	1.6
HFRI Macro	Hedge Funds	-0.5	6.2	1.3	0.8	1.2
TII TII MGOTO	riouge i unuo					



# **4Q19 Review**



#### Total Fund | As of December 31, 2019





Total Fund | As of December 31, 2019

Asset Class Net Performance Summary											
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
Total Fund	3,812,166,344	100.0	4.8	5.1	13.9	7.4	5.5	6.3	8.4	Mar-71	
Policy Benchmark			5.0	5.5	13.4	8.1	6.0	6.8		Mar-71	
Investable Benchmark Portolio			5.9	5.9	15.8	8.0	5.8	6.5		Mar-71	
Low-Cost Passive Portfolio			5.6	<i>5.8</i>	16.1					Mar-71	
60/40 MSCI ACWI IMI/BBgBarc Global Aggregate			5.6	<i>5.8</i>	18.4	9.1	6.1	6.5		Mar-71	
Liability Benchmark Portfolio			-4.1	3.5	14.8					Mar-71	
InvMetrics Public DB > \$1B Net Median			5.1	5.6	17.0	8.9	6.8	8.1		Mar-71	
InvMetrics Public DB > \$1B Net Rank			70	78	95	99	99	98		Mar-71	
Growth	2,433,818,443	63.8	7.2	7.3	20.3	10.1	7.4			Apr-08	
Growth Benchmark			7.7	7.9	20.7	11.0				Apr-08	
Public Equity	1,499,968,570	39.3	8.9	7.5	24.3	11.4	8.0	8.9	6.2	Apr-08	
Public Equity Benchmark			9.7	8.4	24.5	12.2	8.4	9.3	6.6	Apr-08	
Global Equity	440,690,867	11.6	8.8	8.8	30.4	13.9	10.8		11.8	Mar-13	
MSCI ACWI IMI			9.0	8.9	26.4	12.1	8.3		9.2	Mar-13	
eV All Global Equity Net Median			8.6	8.2	26.1	11.7	8.0	9.3	9.2	Mar-13	
eV All Global Equity Net Rank			45	37	25	30	19		16	Mar-13	
U.S. Equity	277,591,516	7.3	8.9	9.4	29.6	13.0	10.7	13.5	9.8	Jun-95	
MSCI USA IMI NR USD			8.9	10.1	30.4	14.0	10.7	12.8	9.5	Jun-95	
eV All US Equity Net Median			8.1	8.3	28.0	11.7	9.3	12.3	10.5	Jun-95	
eV All US Equity Net Rank			36	33	40	42	31	25	71	Jun-95	

Fiscal Year begins July

Please see the Appendix for composition of the Policy Benchmark, Low-Cost Passive Portfolio, Liability Benchmark Portfolio, Growth Benchmark, and Public Equity Benchmark.

<sup>&</sup>lt;sup>3</sup> Returns for the Equity Aggregate are gross of fees through June 2015 and net of fees thereafter.



Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
International Equity	315,230,288	8.3	7.8	5.9	23.6	9.0	5.7	6.3	7.5	Jun-95
MSCI World ex USA IMI NR USD	1		8.4	7.4	22.9	9.5	5.8	5.7		Jun-95
eV ACWI ex-US All Cap Equity Net Median			9.8	7.9	25.1	11.2	6.5	6.9	6.8	Jun-95
eV ACWI ex-US All Cap Equity Net Rank			92	82	65	83	63	68	27	Jun-95
Emerging Markets Equity	457,492,609	12.0	10.4	5.3	16.7	7.8	4.0	1.7	9.0	Sep-01
MSCI Emerging Market IMI Net			11.6	6.8	17.7	11.0	5.3	3.6	10.1	Sep-01
eV Emg Mkts Equity Net Median			11.4	7.0	19.3	10.7	5.5	4.4	10.6	Sep-01
eV Emg Mkts Equity Net Rank			67	74	71	89	80	99	99	Sep-01
Marketable Alternative Equity	8,963,290	0.2	1.3	2.4	10.5	6.7	5.0		5.6	Oct-14
HFRI Equity Hedge (Total) Index			5.7	4.1	13.7	6.2	4.6		4.3	Oct-14
Private Markets	820,385,333	21.5	4.7	6.8	15.2	9.3			7.6	Jul-15
Private Markets Benchmark			4.7	6.8	15.2	9.7			8.5	Jul-15
MSCI ACWI IMI + 100bps			9.3	9.4	27.6	13.2			9.6	Jul-15
Private Markets ex Russell 3000	560,197,462	14.7	3.0	5.6	8.4	8.4			7.0	Jul-15
Private Markets Benchmark			4.7	6.8	15.2	9.7			8.5	Jul-15
Private Equity	514,843,678	13.5	6.8	9.9	23.2	14.0	11.3	12.3	9.2	Oct-05
San Jose Custom Private Equity Benchmark			0.0	4.3	7.8	13.8	11.4	13.2	11.7	Oct-05
Private Equity ex Russell 3000	270,845,931	7.1	4.8	9.7	14.5	14.6	11.9	11.7	8.8	Oct-05
Northern Trust Russell 3000	243,997,747	6.4	9.1	10.4	31.1	14.6	11.3		11.7	Apr-14
Russell 3000			9.1	10.4	31.0	14.6	11.2		11.6	Apr-14

<sup>&</sup>lt;sup>1</sup> Please see the Appendix for composition of the Private Markets Benchmark.



Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Debt	164,882,381	4.3	0.2	8.0	1.5	2.9			3.3	Oct-15
S&P Global Leveraged Loan + 2%			2.8	3.2	9.4	6.6			6.7	Oct-15
Private Real Estate	104,673,018	2.7	3.5	3.6	6.4	11.3			8.8	Jul-15
NCREIF ODCE Equal Weighted			1.5	2.9	6.1	7.4			8.6	Jul-15
Private Real Assets	35,986,255	0.9	2.0	4.3	7.3	5.0			6.0	Jun-16
Emerging Market Debt	113,464,540	3.0	4.5	4.6	14.7	6.8	4.5		1.8	Jan-13
50% JPM EMBI GD / 50% JPM GBI-EM			3.5	3.9	14.3	6.9	4.6		2.3	Jan-13
eV All Emg Mkts Fixed Inc Net Median			3.5	3.5	14.0	6.4	5.3	5.6	2.9	Jan-13
eV All Emg Mkts Fixed Inc Net Rank			29	11	29	34	60		62	Jan-13
Zero Beta	967,358,064	25.4	8.0	1.2	3.9	2.9			2.1	Jul-15
Zero Beta Benchmark			0.5	1.1	2.5	1.2			0.8	Jul-15
Short-Term IG Bonds	524,823,223	13.8	0.6	1.0	2.3				2.3	Oct-18
BBgBarc US Govt/Credit 1-3 Yr. TR			0.6	1.3	4.0				4.2	Oct-18
Immunized Cash Flows	169,476,500	4.4	0.4	1.2	3.6				3.9	Oct-18
Immunized Cash Flow Benchmark			0.4	1.2	3.6				3.9	Oct-18
Absolute Return	249,168,524	6.5	1.5	1.9	8.4	4.5	3.2		3.2	Nov-12
Absolute Return Benchmark			0.5	1.0	2.3	1.1	0.6		1.3	Nov-12
Macro	103,429,797	2.7	1.0	-0.5	6.9	2.7			2.4	Jul-15
HFRI Macro (Total) Index			-0.2	1.5	6.5	1.4			1.0	Jul-15

<sup>1</sup> Please see the Appendix for composition of the Zero Beta Benchmark, Immunized Cash Flows Benchmark, and Absolute Return Benchmark.



Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Relative Value	145,738,727	3.8	1.9	3.6	9.1	6.2			4.6	Jul-15
HFRI Relative Value (Total) Index			1.9	1.9	7.4	4.0			3.7	Jul-15
Cash	23,889,817	0.6	0.8	1.4	2.5	1.8	1.1	0.8	8.7	Jul-02
ICE BofAML 91 Days T-Bills TR			0.5	1.0	2.3	1.7	1.1	0.6	1.4	Jul-02
Other	405,196,521	10.6	1.2	1.7	6.4	4.2			3.0	Jul-15
Other Benchmark			1.6	1.9	5.8	4.1			2.8	Jul-15
Core Real Estate	145,499,667	3.8	0.8	2.0	7.6	6.5	8.2		8.5	Sep-11
NCREIF ODCE Equal Weighted (Net)			1.3	2.5	5.2	6.5	8.3		9.8	Sep-11
NCREIF ODCE Value-Weighted			1.3	2.4	4.4	6.1	8.0		9.6	Sep-11
Commodities	75,984,319	2.0	4.2	4.3	8.0	2.4	-1.4		-4.7	Apr-11
Bloomberg Commodity Index TR USD			4.4	2.5	7.7	-0.9	-3.9		-7.5	Apr-11
TIPS	75,443,955	2.0	1.2	1.5	5.2				3.8	Oct-18
BBgBarc US Treasury TIPS 0-5 Yr TR			1.1	1.5	4.9				3.7	Oct-18
Sovereign Bonds ex-US	108,268,581	2.8	-0.1	-0.2	3.2				2.6	Oct-18
FTSE WGBI ex US TR			-0.1	-0.2	5.3				5.3	Oct-18
Overlay	5,793,316	0.2								

Page 29 MEKETA INVESTMENT GROUP

Cash Composite includes the cash account and residuals from terminated manager assets.
 Please see the Appendix for composition of the Other Benchmark.



Total Fund | As of December 31, 2019

Trailing Net Performance										
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	3,812,166,344	100.4	4.8	5.1	13.9	7.4	5.5	6.3	8.4	Mar-71
Policy Benchmark			5.0	5.5	13.4	8.1	6.0	6.8		Mar-71
Investable Benchmark Portolio			5.9	5.9	15.8	8.0	5.8	6.5		Mar-71
Low-Cost Passive Portfolio			5.6	5.8	16.1					Mar-71
60/40 MSCI ACWI IMI/BBgBarc Global Aggregate			5.6	5.8	18.4	9.1	6.1	6.5		Mar-71
Liability Benchmark Portfolio			-4.1	3.5	14.8					Mar-71
InvMetrics Public DB > \$1B Net Median			5.1	5.6	17.0	8.9	6.8	8.1		Mar-71
InvMetrics Public DB > \$1B Net Rank			70	78	95	99	99	98		Mar-71
Growth	2,433,818,443	64.1	7.2	7.3	20.3	10.1	7.4			Apr-08
Growth Benchmark			7.7	7.9	20.7	11.0				Apr-08
Public Equity	1,499,968,570	39.5	8.9	7.5	24.3	11.4	8.0	8.9	6.2	Apr-08
Public Equity Benchmark			9.7	8.4	24.5	12.2	8.4	9.3	6.6	Apr-08
Global Equity	440,690,867	11.6	8.8	8.8	30.4	13.9	10.8		11.8	Mar-13
MSCI ACWI IMI			9.0	8.9	26.4	12.1	8.3		9.2	Mar-13
eV All Global Equity Net Median			8.6	8.2	26.1	11.7	8.0	9.3	9.2	Mar-13
eV All Global Equity Net Rank			45	37	25	30	19		16	Mar-13
Artisan Global Value	231,715,128	6.1	8.2	7.8	25.7	11.1	8.2		10.3	Mar-13
MSCI ACWI Value NR USD			7.6	7.3	20.6	8.4	6.1		7.3	Mar-13
eV All Global Equity Net Median			8.6	8.2	26.1	11.7	8.0	9.3	9.2	Mar-13
eV All Global Equity Net Rank			58	58	53	57	47		29	Mar-13

<sup>1</sup> Please see the Appendix for composition of the Policy Benchmark, Low-Cost Passive Portfolio, Liability Benchmark Portfolio, Growth Benchmark, and Public Equity Benchmark.



#### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Artisan Global Opportunities	208,975,739	5.5	9.5	10.0	36.0	17.8	13.1		12.4	May-13
MSCI ACWI Growth NR USD			10.2	10.5	<i>32.7</i>	16.6	10.7		10.8	May-13
eV All Global Equity Net Median			8.6	8.2	26.1	11.7	8.0	9.3	8.6	May-13
eV All Global Equity Net Rank			34	20	7	13	6		11	May-13
U.S. Equity	277,591,516	7.3	8.9	9.4	29.6	13.0	10.7	13.5	9.8	Jun-95
MSCI USA IMI NR USD			8.9	10.1	30.4	14.0	10.7	12.8	9.5	Jun-95
eV All US Equity Net Median			8.1	8.3	28.0	11.7	9.3	12.3	10.5	Jun-95
eV All US Equity Net Rank			36	33	40	42	31	25	71	Jun-95
Northern Trust Russell 1000	229,847,602	6.1	9.0	10.6	31.5	15.1	11.5		12.0	Apr-14
Russell 1000			9.0	10.6	31.4	15.0	11.5		11.9	Apr-14
Northern Tr Russell 2000 Value	21,251,157	0.6	8.5	7.9	22.5				3.3	Jan-18
Russell 2000 Value			8.5	7.9	22.4				3.3	Jan-18
Cove Street Small Cap Value	26,492,757	0.7	8.7	4.4	25.2				6.2	Dec-17
Russell 2000 Value			8.5	7.9	22.4				2.7	Dec-17
eV US Small Cap Value Equity Net Median			7.8	7.4	23.8	4.5	6.5	11.0	1.8	Dec-17
eV US Small Cap Value Equity Net Rank			30	85	33				14	Dec-17
International Equity	315,230,288	8.3	7.8	5.9	23.6	9.0	5.7	6.3	7.5	Jun-95
MSCI World ex USA IMI NR USD			8.4	7.4	22.9	9.5	5.8	5.7		Jun-95
eV ACWI ex-US All Cap Equity Net Median			9.8	7.9	25.1	11.2	6.5	6.9	6.8	Jun-95
eV ACWI ex-US All Cap Equity Net Rank			92	82	65	83	63	68	27	Jun-95



#### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Northern Trust MSCI World ex US	247,393,384	6.5	7.8	6.9	22.7	9.6	5.7		4.0	Apr-14
MSCI World ex USA			7.9	6.9	22.5	9.3	5.4		3.8	Apr-14
Oberweis Intl Opportunities	67,836,904	1.8	8.1	3.7	24.7	11.0	8.7		5.8	Mar-14
MSCI World ex USA Small Cap Growth NR USD			11.6	10.7	28.0	12.2	9.4		6.4	Mar-14
eV ACWI ex-US All Cap Equity Net Median			9.8	7.9	25.1	11.2	6.5	6.9	4.6	Mar-14
eV ACWI ex-US All Cap Equity Net Rank			83	99	55	54	20		33	Mar-14
Emerging Markets Equity	457,492,609	12.1	10.4	5.3	16.7	7.8	4.0	1.7	9.0	Sep-01
MSCI Emerging Market IMI Net			11.6	6.8	17.7	11.0	<i>5.3</i>	3.6	10.1	Sep-01
eV Emg Mkts Equity Net Median			11.4	7.0	19.3	10.7	5.5	4.4	10.6	Sep-01
eV Emg Mkts Equity Net Rank			67	74	71	89	80	99	99	Sep-01
Northern Trust MSCI EM IMI	179,149,745	4.7	11.4	6.7	17.3				6.9	Oct-18
MSCI Emerging Market IMI Net			11.6	6.8	17.7				7.1	Oct-18
Dimensional Fund Adv EM Value	70,646,566	1.9	9.7	2.0	9.1	8.7			4.8	Jul-15
MSCI Emerging Markets Value NR USD			9.9	2.8	12.0	8.6			3.6	Jul-15
eV Emg Mkts Equity Net Median			11.4	7.0	19.3	10.7	5.5	4.4	5.6	Jul-15
eV Emg Mkts Equity Net Rank			74	93	96	79			63	Jul-15
GQG Global Emerging Markets	71,650,556	1.9	6.4	2.2	21.9				8.4	Jul-17
MSCI Emerging Markets			11.8	7.1	18.4				6.6	Jul-17
eV Emg Mkts Equity Net Median			11.4	7.0	19.3	10.7	5.5	4.4	5.6	Jul-17
eV Emg Mkts Equity Net Rank			95	92	36				20	Jul-17



#### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
RWC Emerging Markets Equity	45,745,300	1.2	11.3						14.4	Sep-19
MSCI Emerging Markets			11.8						14.0	Sep-19
eV Emg Mkts Equity Net Median			11.4	7.0	19.3	10.7	5.5	4.4	13.4	Sep-19
eV Emg Mkts Equity Net Rank			51						29	Sep-19
Wellington Emerging Markets Systematic	90,300,441	2.4	11.8						12.9	Sep-19
MSCI Emerging Markets			11.8						14.0	Sep-19
eV Emg Mkts Equity Net Median			11.4	7.0	19.3	10.7	5.5	4.4	13.4	Sep-19
eV Emg Mkts Equity Net Rank			37						59	Sep-19
Marketable Alternative Equity	8,963,290	0.2	1.3	2.4	10.5	6.7	5.0		5.6	Oct-14
HFRI Equity Hedge (Total) Index			5.7	4.1	13.7	6.2	4.6		4.3	Oct-14
Senator Global Opportunity, L.P.	8,963,290	0.2	4.1	4.0	19.1	6.9	4.1		6.4	Apr-13
HFRI Event-Driven (Total) Index			2.9	1.9	7.5	4.2	3.8		4.2	Apr-13
Private Markets	820,385,333	21.6	4.7	6.8	15.2	9.3	-		7.6	Jul-15
Private Markets Benchmark			4.7	6.8	15.2	9.7			8.5	Jul-15
MSCI ACWI IMI + 100bps			9.3	9.4	27.6	13.2			9.6	Jul-15
Private Markets ex Russell 3000	560,197,462	14.8	3.0	5.6	8.4	8.4			7.0	Jul-15
Private Markets Benchmark			4.7	6.8	15.2	9.7			8.5	Jul-15
Private Equity	514,843,678	13.6	6.8	9.9	23.2	14.0	11.3	12.3	9.2	Oct-05
San Jose Custom Private Equity Benchmark			0.0	4.3	7.8	13.8	11.4	13.2	11.7	Oct-05



#### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity ex Russell 3000	270,845,931	7.1	4.8	9.7	14.5	14.6	11.9	11.7	8.8	Oct-05
PE Strategic Partnership, LP	88,313,354	2.3	2.8	6.1	11.3				7.4	Aug-17
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8				14.0	Aug-17
Pantheon USA Fund VI, LP	7,246,692	0.2	-0.3	2.9	3.4	7.4	5.3	8.9	5.8	Oct-05
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2	13.1	12.7	Oct-05
Portfolio Advisors Private Eq	3,465,023	0.1	0.7	-0.1	-0.5	3.8	3.4	7.8	5.9	Nov-05
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2	13.1	12.8	Nov-05
HarbourVest Partners VII	266,769	0.0	1.7	-0.1	-5.7	-1.1	3.9	9.9	8.0	Dec-05
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2	13.1	12.9	Dec-05
Siguler Guff Distressed	4,876,146	0.1	8.1	10.9	8.1	10.4	8.3	8.6	9.2	Nov-08
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2	13.1	9.5	Nov-08
TCW/Crescent Mezzanine	517,680	0.0	0.0	8.5	-15.5	-1.9	2.8	6.7	6.5	Dec-08
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2	13.1	10.7	Dec-08
TPG Opportunities Partners II	1,577,882	0.0	1.0	0.9	1.8	8.7	11.1		13.9	Oct-12
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2		12.7	Oct-12
Crescent Mezzanine Partners VI	7,131,812	0.2	2.4	4.9	8.8	8.8	8.6		7.0	Feb-13
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2		12.6	Feb-13



#### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Warburg Pincus (Europa) XI	12,574,984	0.3	0.6	2.7	9.1	14.7	13.0		12.2	May-13
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2		12.6	May-13
57 Stars Global Opportunity	31,046,026	0.8	2.1	3.8	5.8	8.9	5.4		1.4	Jan-14
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2		12.1	Jan-14
TPG Opportunities Partners III	7,677,618	0.2	-1.1	-1.2	-1.8	9.0	8.5		3.2	Mar-14
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2		12.3	Mar-14
CCMP Capital Investors III, LP	17,787,438	0.5	2.6	5.5	0.8	6.7	9.9		7.9	Aug-14
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2		11.4	Aug-14
Industry Ventures Partnership	27,291,431	0.7	12.2	31.4	44.6	28.2	21.8		22.2	Oct-14
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8	11.2		10.5	Oct-14
Francisco Partners	18,454,639	0.5	16.4	29.1	46.3	35.3			22.2	May-15
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8			11.9	May-15
HarbourVest Partners VIII	8,747,128	0.2	1.2	6.3	15.7	15.9			13.5	Jul-15
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8			12.3	Jul-15
HarbourVest Dover Street IX	22,429,694	0.6	10.3	16.3	26.7	39.6			39.6	Jan-17
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8	13.8			13.8	Jan-17
Innovation Endeavors III	1,272,061	0.0	-1.3	-3.3	1.3				-19.7	Jun-18
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8				11.6	Jun-18



#### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Crestline Portfolio Financing	10,169,555	0.3	3.1	5.3	8.6				8.7	Jun-18
Cambridge Glob Priv Eq Qtr Lag			0.0	4.3	7.8				11.6	Jun-18
Northern Trust Russell 3000	243,997,747	6.4	9.1	10.4	31.1	14.6	11.3		11.7	Apr-14
Russell 3000			9.1	10.4	31.0	14.6	11.2		11.6	Apr-14
Private Debt	164,882,381	4.3	0.2	0.8	1.5	2.9			3.3	Oct-15
S&P Global Leveraged Loan + 2%			2.8	3.2	9.4	6.6			6.7	Oct-15
White Oak Direct Lending	13,069,175	0.3	15.6	20.5	26.4	-5.0	-4.7		-0.2	Nov-10
S&P Global Leveraged Loan Index +2%			2.7	3.2	9.2	6.6	6.0		6.3	Nov-10
Blackstone/GSO Cap Partners	7,753,588	0.2	-8.1	-11.5	-13.2	1.1	-1.7		7.5	Dec-10
S&P Global Leveraged Loan Index +2%			2.7	3.2	9.2	6.6	6.0		6.3	Dec-10
Medley Opportunity Fund II LP	17,447,363	0.5	-6.3	-11.0	-14.4	-8.5	-4.1		0.8	Mar-11
S&P Global Leveraged Loan Index +2%			2.7	3.2	9.2	6.6	6.0		6.0	Mar-11
Marathon Euro Credit Opp Fund	1,433,187	0.0	5.7	8.9	16.3	18.0	13.4		11.9	Oct-12
S&P Global Leveraged Loan Index +2%			2.7	3.2	9.2	6.6	6.0		5.9	Oct-12
Cross Ocean USD ESS Fund I, LP	8,248,617	0.2	0.5	2.6	-7.1	4.0	4.5		4.6	Apr-14
S&P Global Leveraged Loan Index +2%			2.7	3.2	9.2	6.6	6.0		5.1	Apr-14
Park Square Credit Opp II, LP	38,699,151	1.0	2.3	4.5	5.7	5.2	5.9		5.7	Nov-14
S&P Global Leveraged Loan Index +2%			2.7	3.2	9.2	6.6	6.0	-	5.6	Nov-14



### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Shoreline China Value III, LP	9,515,460	0.3	-7.7	-8.6	-7.3	0.9			4.2	Jul-15
S&P Global Leveraged Loan Index +2%			2.7	3.2	9.2	6.6			6.2	Jul-15
Cross Ocean USD ESS Fund II LP	41,641,045	1.1	2.0	4.8	5.7	8.9			9.9	May-16
S&P Global Leveraged Loan Index +2%			2.7	3.2	9.2	6.6			6.8	May-16
Octagon CLO Opp Fund III	16,190,123	0.4	-2.8	-4.2					0.3	Feb-19
S&P Global Leveraged Loan Index +2%			2.7	3.2					6.7	Feb-19
Cross Ocean USD ESS Fund III, LP	10,884,670	0.3	-1.9	-1.9					-1.9	Jun-19
S&P Global Leveraged Loan Index +2%			2.7	3.2					4.1	Jun-19
rivate Real Estate	104,673,018	2.8	3.5	3.6	6.4	11.3			8.8	Jul-15
NCREIF ODCE Equal Weighted			1.5	2.9	6.1	7.4			8.6	Jul-15
TA Realty Associates Fund X	1,692,416	0.0	0.8	12.4	22.3	15.9	14.8		13.1	Mar-13
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2		9.4	Mar-13
Blackstone Real Estate Debt	352,338	0.0	1.6	3.5	10.7	7.3	8.7		9.5	Sep-13
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2		9.2	Sep-13
Brookfield SREP I	5,490,489	0.1	2.0	0.8	1.5	21.7	20.4		19.6	Sep-13
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2		9.2	Sep-13
Tristan - EPISO III	3,479,973	0.1	-1.4	-6.8	-15.5	14.2	10.2		5.4	Dec-13
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2		9.2	Dec-13



### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Orion Euro Real Estate IV LP	3,009,919	0.1	4.3	-2.3	-19.1	-3.5	-5.3		-6.5	Apr-14
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2		8.7	Apr-14
Och Ziff Real Estate Fund III	7,732,218	0.2	4.3	8.3	17.4	27.6	18.3		14.4	Oct-14
NCREIF Property Index			1.6	3.0	6.4	6.7	8.2		8.5	Oct-14
Tristan - EPISO IV	17,378,642	0.5	5.6	2.8	11.4	10.0			6.6	Dec-15
NCREIF Property Index			1.6	3.0	6.4	6.7			7.0	Dec-15
KSL Capital Partners IV, LP	15,836,571	0.4	4.5	4.4	6.8	12.0			-3.0	Apr-16
NCREIF Property Index			1.6	3.0	6.4	6.7			6.9	Apr-16
Brookfield SREP II	18,163,698	0.5	4.4	5.2	11.8	12.3			10.5	Jun-16
NCREIF Property Index			1.6	3.0	6.4	6.7			6.8	Jun-16
DRA Growth & Income Fund IX	17,092,885	0.5	2.6	3.6	7.2				12.8	Feb-17
NCREIF Property Index			1.6	3.0	6.4				6.9	Feb-17
GEM Realty Fund VI	2,624,383	0.1	-4.2	-7.8	-10.5				-2.6	Nov-17
NCREIF Property Index			1.6	3.0	6.4				6.9	Nov-17
Torchlight Debt Opportunity VI	11,472,851	0.3	3.0	4.0	-10.8				1.7	Apr-18
NCREIF Property Index			1.6	3.0	6.4				6.5	Apr-18
Tristan - EPISO V	346,637	0.0								



### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Real Assets	35,986,255	0.9	2.0	4.3	7.3	5.0			6.0	Jun-16
Brookfield Infrastructure III	15,179,365	0.4	4.8	9.4	15.7	9.3			10.7	Jun-16
DJ Brookfield Global Infrastructure Net TR USD			4.0	6.6	28.7	11.1			9.8	Jun-16
Global Infra Part III-A/B, LP	16,192,763	0.4	1.6	3.0	3.8	5.8			1.7	Sep-16
DJ Brookfield Global Infrastructure Net TR USD			4.0	6.6	28.7	11.1			8.4	Sep-16
Lime Rock Partners VIII	4,140,046	0.1	-1.0	-2.8	-0.8				-0.7	Dec-18
DJ Brookfield Global Infrastructure Net TR USD			4.0	6.6	28.7				20.6	Dec-18
Kimmeridge Energy Fund V, L.P.	449,463	0.0								
Global Infra Partners IV	24,617	0.0								
nerging Market Debt	113,464,540	3.0	4.5	4.6	14.7	6.8	4.5		1.8	Jan-13
50% JPM EMBI GD / 50% JPM GBI-EM			3.5	3.9	14.3	6.9	4.6		2.3	Jan-13
eV All Emg Mkts Fixed Inc Net Median			3.5	3.5	14.0	6.4	5.3	5.6	2.9	Jan-13
eV All Emg Mkts Fixed Inc Net Rank			29	11	29	34	60		62	Jan-13
BlueBay EM Select Bond	35,592,590	0.9	3.6	3.6	14.3	5.9	2.8		1.9	Aug-13
50% JPM EMBI GD + 50% JPM GBI EM GD			3.5	3.9	14.3	6.9	4.6		3.7	Aug-13
eV All Emg Mkts Fixed Inc Net Median			3.5	3.5	14.0	6.4	5.3	5.6	4.5	Aug-13
eV All Emg Mkts Fixed Inc Net Rank			50	46	40	72	83		72	Aug-13



### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Wellington Iguazu Partners LP Fund	77,871,950	2.1	5.0	5.2	15.0	7.8	7.7		7.8	Feb-14
50% JPM EMBI GD + 50% JPM GBI EM GD			3.5	3.9	14.3	6.9	4.6		4.4	Feb-14
eV All Emg Mkts Fixed Inc Net Median			3.5	3.5	14.0	6.4	<i>5.3</i>	5.6	5.0	Feb-14
eV All Emg Mkts Fixed Inc Net Rank			22	4	22	8	1		1	Feb-14
Zero Beta	967,358,064	25.5	8.0	1.2	3.9	2.9	_		2.1	Jul-15
Zero Beta Benchmark			0.5	1.1	2.5	1.2			0.8	Jul-15
Short-Term IG Bonds	524,823,223	13.8	0.6	1.0	2.3				2.3	Oct-18
BBgBarc US Govt/Credit 1-3 Yr. TR			0.6	1.3	4.0				4.2	Oct-18
BlackRock 1-3 Year Gov/Credit	524,823,221	13.8	0.6							Sep-19
BBgBarc US Govt/Credit 1-3 Yr. TR			0.6							Sep-19
Immunized Cash Flows	169,476,500	4.5	0.4	1.2	3.6				3.9	Oct-18
Immunized Cash Flow Benchmark			0.4	1.2	3.6				3.9	Oct-18
Insight Immunized Cash Flow	169,476,500	4.5	0.4	1.2						Jun-19
Absolute Return	249,168,524	6.6	1.5	1.9	8.4	4.5	3.2		3.2	Nov-12
Absolute Return Benchmark			0.5	1.0	2.3	1.1	0.6		1.3	Nov-12
Масго	103,429,797	2.7	1.0	-0.5	6.9	2.7	-		2.4	Jul-15
HFRI Macro (Total) Index			-0.2	1.5	6.5	1.4			1.0	Jul-15
Kepos Alpha Fund, Ltd	14,242,863	0.4	9.0	5.6	30.1	5.4	-0.1		2.0	Mar-13
HFRI Macro: Systematic Diversified Index			-1.4	1.3	7.1	0.7	-0.3		1.1	Mar-13



### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Keynes Lev Quant Strat, Ltd	17,165,877	0.5	-5.3	1.0	17.6	6.9			4.0	Jan-16
BARCLAY HEDGE BTOP 50			-2.3	1.3	6.7	0.4			-0.8	Jan-16
Pharo Management, Ltd	37,055,927	1.0	0.5	-3.6	4.4	7.9			8.0	Apr-16
HFRI Macro (Total) Index			-0.2	1.5	6.5	1.4			1.0	Apr-16
AHL Partners LLP	18,333,486	0.5	4.7	4.9	8.9	7.0			6.6	Jul-16
BARCLAY HEDGE BTOP 50			-2.3	1.3	6.7	0.4			-1.1	Jul-16
Systematica	16,631,643	0.4	-1.3	1.1	6.5				4.0	Jul-17
BARCLAY HEDGE BTOP 50			-2.3	1.3	6.7				<i>2.</i> 5	Jul-17
Relative Value	145,738,727	3.8	1.9	3.6	9.1	6.2	-		4.6	Jul-15
HFRI Relative Value (Total) Index			1.9	1.9	7.4	4.0			3.7	Jul-15
Pine River Fund, Ltd	880,761	0.0	12.0	10.9	31.1	9.1	4.4		5.2	Jan-13
HFRI Relative Value (Total) Index			1.9	1.9	7.4	4.0	3.8		4.3	Jan-13
DE Shaw Composite Fund, LLC	52,135,105	1.4	3.1	6.6	15.1	10.7	10.5		11.4	Apr-13
HFRI Fund Weighted Composite Index			3.6	3.0	10.4	4.5	3.6		3.9	Apr-13
JD Capital	23,765,094	0.6	0.1	0.3	3.9	5.7			5.4	Oct-16
HFRI Relative Value (Total) Index			1.9	1.9	7.4	4.0			4.3	Oct-16
Pine River Volatility Arb	25,283,900	0.7	2.6	0.3	5.4				0.4	Mar-17
HFRI Relative Value (Total) Index			1.9	1.9	7.4				3.5	Mar-17



Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Hudson Bay  HFRI Relative Value (Total) Index	43,673,867	1.2	0.8 <i>1.9</i>	3.9 <i>1.9</i>	8.2 <i>7.4</i>				6.4 3.5	Aug-17 <i>Aug-17</i>
nrki kelative value (Total) liluex			1.9	1.9	7.4				3.5	
Cash	23,889,817	0.6	8.0	1.4	2.5	1.8	1.1	8.0	8.7	Jul-02
ICE BofAML 91 Days T-Bills TR			0.5	1.0	2.3	1.7	1.1	0.6	1.4	Jul-02
Other	405,196,521	10.7	1.2	1.7	6.4	4.2			3.0	Jul-15
Other Benchmark			1.6	1.9	5.8	4.1			2.8	Jul-15
Core Real Estate	145,499,667	3.8	8.0	2.0	7.6	6.5	8.2		8.5	Sep-11
NCREIF ODCE Equal Weighted (Net)			1.3	2.5	5.2	6.5	8.3		9.8	Sep-11
NCREIF ODCE Value-Weighted			1.3	2.4	4.4	6.1	8.0		9.6	Sep-11
BlackRock Core Property Fund	68,236,447	1.8	1.1	1.1					3.6	Feb-19
NCREIF ODCE Equal-Weighted			1.3	2.5					4.7	Feb-19
NCREIF ODCE Value-Weighted			1.3	2.4					4.0	Feb-19
Clarion Lion Properties Fund	77,263,220	2.0	0.0	1.4					4.1	Mar-19
NCREIF ODCE Equal-Weighted			1.3	2.5					4.7	Mar-19
NCREIF ODCE Value-Weighted			1.3	2.4					4.0	Mar-19

<sup>&</sup>lt;sup>1</sup> Cash composite includes the cash account and residuals from terminated manager assets.



### Total Fund | As of December 31, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Commodities	75,984,319	2.0	4.2	4.3	8.0	2.4	-1.4		-4.7	Apr-11
Bloomberg Commodity Index TR USD			4.4	2.5	7.7	-0.9	-3.9		-7.5	Apr-11
Credit Suisse Risk Parity	75,984,319	2.0	4.2	4.3	8.1	2.5	-1.5		-4.2	Apr-11
Bloomberg Commodity Index TR USD			4.4	2.5	7.7	-0.9	-3.9		-7.5	Apr-11
Custom Commodity Risk Parity Index			4.1	4.5						Apr-11
TIPS	75,443,955	2.0	1.2	1.5	5.2				3.8	Oct-18
BBgBarc US Treasury TIPS 0-5 Yr TR			1.1	1.5	4.9				3.7	Oct-18
Northern Trust 0-5 Year TIPS	75,443,955	2.0	1.2	1.5	5.2				3.8	Oct-18
BBgBarc U.S. TIPS 0-5 Years			1.1	1.5	4.9				3.7	Oct-18
Sovereign Bonds ex-US	108,268,581	2.9	-0.1	-0.2	3.2				2.6	Oct-18
FTSE WGBI ex US TR			-0.1	-0.2	5.3				5.3	Oct-18
Northern Trust FTSE WGBI ex US	108,268,581	2.9	-0.1	-0.2						Oct-18
FTSE WGBI ex US TR			-0.1	-0.2						Oct-18
Overlay	5,793,316	0.2								
Russell Overlay	5,698,519	0.2								



Total Fund | As of December 31, 2019

Cash Flow Summary									
	Quarter Er	nding December	31, 2019						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value			
57 Stars Global Opportunity	\$30,755,266	\$0	-\$392,843	-\$392,843	\$683,603	\$31,046,026			
AHL Partners LLP	\$17,508,803	\$0	\$0	\$0	\$824,684	\$18,333,486			
American Core Realty Fund, LLC	\$45,045,110	\$0	-\$45,596,599	-\$45,596,599	\$551,489				
Artisan Global Opportunities	\$190,834,934	\$0	\$0	\$0	\$18,140,805	\$208,975,739			
Artisan Global Value	\$214,146,401	\$19,588,864	-\$19,588,864	\$0	\$17,568,727	\$231,715,128			
Beach Point Total Ret Fund II	\$17,686,904	\$0	-\$16,802,559	-\$16,802,559	-\$884,345				
BlackRock 1-3 Year Gov/Credit	\$514,518,960	\$107,000,000	-\$100,000,000	\$7,000,000	\$3,304,261	\$524,823,221			
BlackRock 3-Month T-Bill	\$1,401	\$0	-\$1,401	-\$1,401	\$2	\$2			
BlackRock Core Property Fund	\$27,302,703	\$40,875,000	-\$317,698	\$40,557,302	\$376,443	\$68,236,447			
Blackstone Real Estate Debt	\$358,294	\$0	-\$13,511	-\$13,511	\$7,555	\$352,338			
Blackstone/GSO Cap Partners	\$8,304,861	\$117,574	\$0	\$117,574	-\$668,847	\$7,753,588			
BlueBay EM Select Bond	\$42,244,832	\$0	-\$8,000,000	-\$8,000,000	\$1,347,758	\$35,592,590			
Brookfield Infrastructure III	\$15,274,795	\$0	-\$891,760	-\$891,760	\$796,330	\$15,179,365			
Brookfield SREP I	\$6,966,139	\$0	-\$1,638,597	-\$1,638,597	\$162,947	\$5,490,489			
Brookfield SREP II	\$18,104,315	\$0	-\$801,015	-\$801,015	\$860,398	\$18,163,698			
Cash	\$33,536,399	\$366,105,919	-\$376,129,149	-\$10,023,230	\$376,647	\$23,889,817			
CCMP Capital Investors III, LP	\$17,340,275	\$0	-\$75,926	-\$75,926	\$523,088	\$17,787,438			
Clarion Lion Properties Fund	\$77,871,078	\$0	-\$607,858	-\$607,858	\$0	\$77,263,220			
Cove Street Small Cap Value	\$24,380,912	\$0	\$0	\$0	\$2,111,845	\$26,492,757			
Credit Suisse Risk Parity	\$72,932,360	\$0	-\$75,625	-\$75,625	\$3,127,583	\$75,984,319			
Crescent Mezzanine Partners VI	\$7,165,038	\$0	-\$230,554	-\$230,554	\$197,327	\$7,131,812			
Crestline Portfolio Financing	\$10,002,853	\$0	-\$144,304	-\$144,304	\$311,005	\$10,169,555			
Cross Ocean USD ESS Fund I, LP	\$6,970,493	\$1,241,702	\$0	\$1,241,702	\$36,422	\$8,248,617			



### Total Fund | As of December 31, 2019

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Cross Ocean USD ESS Fund II LP	\$51,562,588	\$0	-\$11,004,609	-\$11,004,609	\$1,083,067	\$41,641,045
Cross Ocean USD ESS Fund III, LP	\$4,799,431	\$6,268,115	-\$132,304	\$6,135,811	-\$50,572	\$10,884,670
DE Shaw Composite Fund, LLC	\$50,591,632	\$0	-\$329,104	-\$329,104	\$1,872,577	\$52,135,105
Dimensional Fund Adv EM Value	\$64,402,900	\$0	\$0	\$0	\$6,243,667	\$70,646,566
DRA Growth & Income Fund IX	\$17,173,425	\$0	-\$629,561	-\$629,561	\$549,022	\$17,092,885
Francisco Partners	\$19,442,622	\$0	-\$4,149,359	-\$4,149,359	\$3,161,375	\$18,454,639
GEM Realty Fund VI	\$2,740,284	\$0	-\$50,625	-\$50,625	-\$65,276	\$2,624,383
Global Infra Part III-A/B, LP	\$16,743,817	\$0	-\$899,804	-\$899,804	\$348,751	\$16,192,763
Global Infra Partners IV	\$81,889	\$26,250	-\$26,250	\$0	-\$57,272	\$24,617
GQG Global Emerging Markets	\$67,336,633	\$0	-\$96,034	-\$96,034	\$4,409,957	\$71,650,556
HarbourVest Dover Street IX	\$20,976,108	\$160,393	-\$871,630	-\$711,237	\$2,164,823	\$22,429,694
HarbourVest Partners VII	\$535,887	\$0	-\$278,438	-\$278,438	\$9,321	\$266,769
HarbourVest Partners VIII	\$9,586,015	\$0	-\$1,027,338	-\$1,027,338	\$188,450	\$8,747,128
Hudson Bay	\$43,307,242	\$0	\$0	\$0	\$366,625	\$43,673,867
Industry Ventures Partnership	\$24,583,916	\$0	-\$275,793	-\$275,793	\$2,983,307	\$27,291,431
Innovation Endeavors III	\$1,288,211	\$0	\$0	\$0	-\$16,151	\$1,272,061
Insight Immunized Cash Flow	\$178,715,836	\$0	-\$9,896,065	-\$9,896,065	\$656,729	\$169,476,500
JD Capital	\$23,730,221	\$0	-\$90,404	-\$90,404	\$125,277	\$23,765,094
Kepos Alpha Fund, Ltd	\$13,062,015	\$0	-\$31,022	-\$31,022	\$1,211,870	\$14,242,863
Keynes Lev Quant Strat, Ltd	\$18,120,343	\$0	-\$140,841	-\$140,841	-\$813,625	\$17,165,877
Kimmeridge Energy Fund V, L.P.	\$303,494	\$295,426	-\$34,844	\$260,582	-\$114,613	\$449,463
KSL Capital Partners IV, LP	\$14,996,331	\$163,587	-\$42,459	\$121,128	\$719,112	\$15,836,571
Lime Rock Partners VIII	\$3,891,840	\$292,433	-\$34,000	\$258,433	-\$10,226	\$4,140,046
Marathon Euro Credit Opp Fund	\$1,873,968	\$0	-\$543,891	-\$543,891	\$103,109	\$1,433,187



### Total Fund | As of December 31, 2019

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Marshall Wace Eureka Fund	\$46,407,309	\$0	-\$46,446,057	-\$46,446,057	\$38,748	
Medley Opportunity Fund II LP	\$21,386,938	\$0	-\$2,622,147	-\$2,622,147	-\$1,317,427	\$17,447,363
Northern Tr Russell 2000 Value	\$19,583,238	\$0	\$0	\$0	\$1,667,919	\$21,251,157
Northern Trust 0-5 Year TIPS	\$74,576,155	\$0	\$0	\$0	\$867,800	\$75,443,955
Northern Trust FTSE WGBI ex US	\$108,342,865	\$1,398,767	-\$1,398,767	\$0	-\$74,284	\$108,268,581
Northern Trust MSCI EM IMI	\$173,905,545	\$0	-\$14,000,000	-\$14,000,000	\$19,244,201	\$179,149,745
Northern Trust MSCI World ex US	\$174,983,619	\$57,000,000	\$0	\$57,000,000	\$15,409,765	\$247,393,384
Northern Trust Russell 1000	\$141,723,904	\$69,000,000	\$0	\$69,000,000	\$19,123,698	\$229,847,602
Northern Trust Russell 3000	\$223,651,188	\$0	\$0	\$0	\$20,346,559	\$243,997,747
Oberweis Intl Opportunities	\$48,793,392	\$52,990,951	-\$37,990,951	\$15,000,000	\$4,043,512	\$67,836,904
Och Ziff Real Estate Fund III	\$7,761,876	\$348,580	-\$702,573	-\$353,993	\$324,335	\$7,732,218
Octagon CLO Opp Fund III	\$17,206,319	\$0	-\$572,567	-\$572,567	-\$443,629	\$16,190,123
Orion Euro Real Estate IV LP	\$2,936,338	\$0	-\$51,113	-\$51,113	\$124,694	\$3,009,919
Pantheon USA Fund VI, LP	\$7,869,390	\$0	-\$638,697	-\$638,697	\$15,998	\$7,246,692
Park Square Credit Opp II, LP	\$43,433,058	\$0	-\$5,758,184	-\$5,758,184	\$1,024,277	\$38,699,151
PE Strategic Partnership, LP	\$77,056,800	\$8,975,000	-\$140,625	\$8,834,375	\$2,422,180	\$88,313,354
Pharo Management, Ltd	\$36,878,473	\$0	\$0	\$0	\$177,454	\$37,055,927
Pine River Fund, Ltd	\$1,144,685	\$0	-\$366,477	-\$366,477	\$102,553	\$880,761
Pine River Volatility Arb	\$24,633,000	\$0	-\$30,929	-\$30,929	\$681,829	\$25,283,900
Portfolio Advisors Private Eq	\$4,141,316	\$0	-\$704,144	-\$704,144	\$27,850	\$3,465,023
Russell Overlay	\$6,160,359	\$0	\$0	\$0	-\$461,840	\$5,698,519
RWC Emerging Markets Equity	\$41,089,800	\$0	-\$82,357	-\$82,357	\$4,737,857	\$45,745,300
Sandler Plus Offshore Fund Ltd	\$23,260,750	\$0	-\$22,097,712	-\$22,097,712	-\$1,163,037	
Senator Global Opportunity, L.P.	\$15,930,282	\$0	-\$7,301,871	-\$7,301,871	\$334,878	\$8,963,290



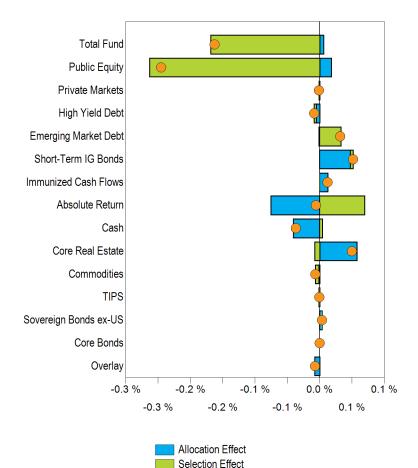
Total Fund | As of December 31, 2019

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Shoreline China Value III, LP	\$11,278,063	\$0	-\$916,173	-\$916,173	-\$846,430	\$9,515,460
Siguler Guff Distressed	\$4,628,449	\$0	-\$117,709	-\$117,709	\$365,406	\$4,876,146
Systematica	\$16,856,643	\$0	\$0	\$0	-\$225,000	\$16,631,643
TA Realty Associates Fund X	\$1,780,555	\$0	-\$113,171	-\$113,171	\$25,032	\$1,692,416
TCW/Crescent Mezzanine	\$517,680	\$0	\$0	\$0	\$0	\$517,680
Terminated Manager Assets	\$100,843	\$0	-\$1	-\$1	-\$6,045	\$94,797
Torchlight Debt Opportunity VI	\$6,766,847	\$4,500,000	-\$101,250	\$4,398,750	\$307,253	\$11,472,851
TPG Opportunities Partners II	\$1,830,160	\$0	-\$274,058	-\$274,058	\$21,780	\$1,577,882
TPG Opportunities Partners III	\$7,896,102	\$0	-\$155,644	-\$155,644	-\$62,840	\$7,677,618
Tristan - EPISO III	\$3,279,198	\$418,716	-\$197,120	\$221,595	-\$20,821	\$3,479,973
Tristan - EPISO IV	\$17,112,493	\$0	-\$728,414	-\$728,414	\$994,562	\$17,378,642
Tristan - EPISO V	\$336,662	\$0	\$0	\$0	\$9,974	\$346,637
Warburg Pincus (Europa) XI	\$16,920,108	\$0	-\$4,447,000	-\$4,447,000	\$101,876	\$12,574,984
Wellington Emerging Markets Systematic	\$80,762,815	\$0	-\$15,489	-\$15,489	\$9,553,115	\$90,300,441
Wellington Iguazu Partners LP Fund	\$74,163,750	\$0	\$0	\$0	\$3,708,200	\$77,871,950
White Oak Direct Lending	\$11,379,939	\$0	-\$92,716	-\$92,716	\$1,781,952	\$13,069,175
Total	\$3,647,566,683	\$736,767,278	-\$749,956,554	-\$13,189,276	\$177,788,937	\$3,812,166,344



#### Total Fund | As of December 31, 2019

# Attribution Effects 3 Months Ending December 31, 2019



Total Effect

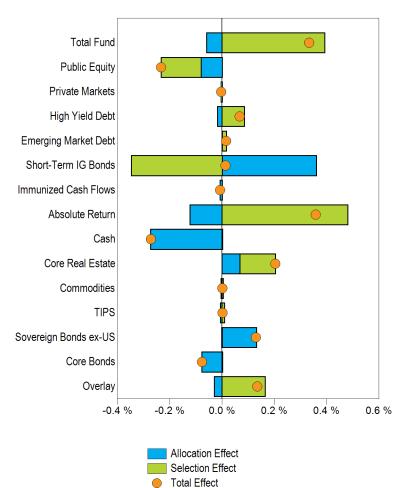
		Attribution	Summary			
	3 Mont	hs Ending D	ecember 31	, 2019		
	Wtd. Actual	Wtd. Index	Excess	Selection	Allocation	Total
	Return	Return	Return	Effect	Effect	Effects
Public Equity	8.9%	9.7%	-0.7%	-0.3%	0.0%	-0.2%
Private Markets	4.7%	4.7%	0.0%	0.0%	0.0%	0.0%
High Yield Debt		0.6%		0.0%	0.0%	0.0%
Emerging Market Debt	4.5%	3.5%	1.0%	0.0%	0.0%	0.0%
Short-Term IG Bonds	0.6%	0.6%	0.0%	0.0%	0.0%	0.1%
Immunized Cash Flows	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%
Absolute Return	1.5%	0.5%	1.0%	0.1%	-0.1%	0.0%
Cash	0.8%	0.5%	0.4%	0.0%	0.0%	0.0%
Core Real Estate	0.8%	1.3%	-0.5%	0.0%	0.1%	0.0%
Commodities	4.2%	4.4%	-0.2%	0.0%	0.0%	0.0%
TIPS	1.2%	1.1%	0.0%	0.0%	0.0%	0.0%
Sovereign Bonds ex-US	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Core Bonds		0.7%		0.0%	0.0%	0.0%
Overlay					0.0%	
Total	4.8%	4.9%	-0.2%	-0.2%	0.0%	-0.2%

Difference in attribution returns and returns in the performance summary may occur as a result of the different calculation methodologies that are applied by InvestorForce.



#### Total Fund | As of December 31, 2019

# Attribution Effects 1 Year Ending December 31, 2019

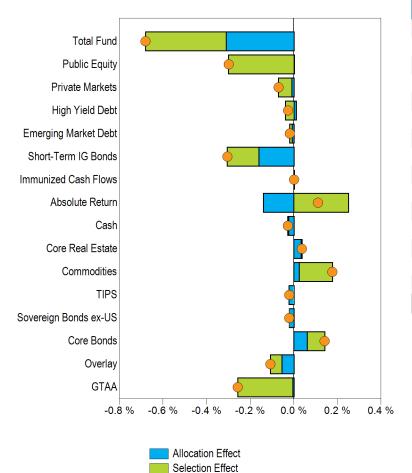


		Attribution	Summary			
	1 Yea	r Ending De	cember 31, 2	2019		
	Wtd. Actual	Wtd. Index	Excess	Selection	Allocation	Total
	Return	Return	Return	Effect	Effect	Effects
Public Equity	24.3%	24.5%	-0.2%	-0.2%	-0.1%	-0.2%
Private Markets	15.2%	15.2%	0.0%	0.0%	0.0%	0.0%
High Yield Debt		8.0%		0.1%	0.0%	0.1%
Emerging Market Debt	14.7%	14.3%	0.4%	0.0%	0.0%	0.0%
Short-Term IG Bonds	2.3%	4.0%	-1.7%	-0.3%	0.4%	0.0%
Immunized Cash Flows	3.6%	3.6%	0.0%	0.0%	0.0%	0.0%
Absolute Return	8.4%	2.3%	6.0%	0.5%	-0.1%	0.4%
Cash	2.5%	2.3%	0.2%	0.0%	-0.3%	-0.3%
Core Real Estate	7.6%	5.2%	2.4%	0.1%	0.1%	0.2%
Commodities	8.0%	7.7%	0.4%	0.0%	0.0%	0.0%
TIPS	5.2%	4.9%	0.4%	0.0%	0.0%	0.0%
Sovereign Bonds ex-US	3.2%	5.3%	-2.1%	0.0%	0.1%	0.1%
Core Bonds		2.9%		0.0%	-0.1%	-0.1%
Overlay		0.6%		0.2%	0.0%	0.1%
Total	13.9%	13.6%	0.3%	0.4%	-0.1%	0.3%



#### Total Fund | As of December 31, 2019

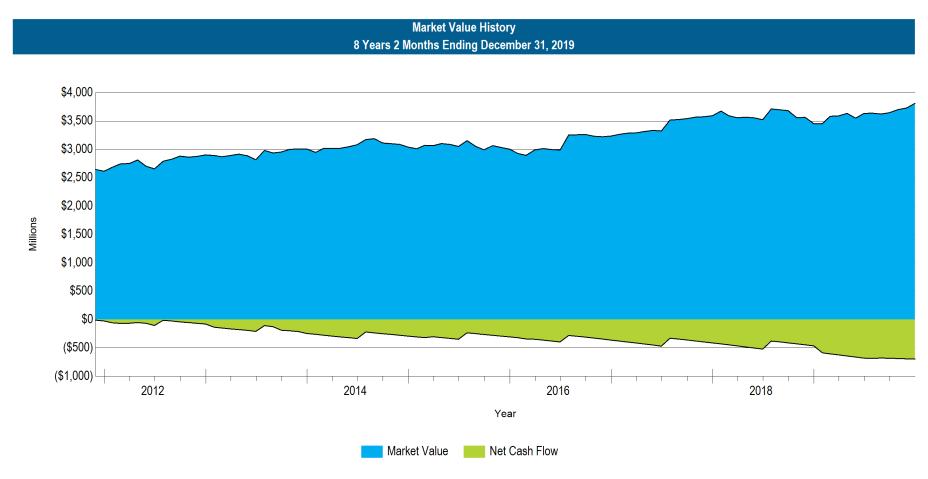
# Attribution Effects 3 Years Ending December 31, 2019



Total Effect

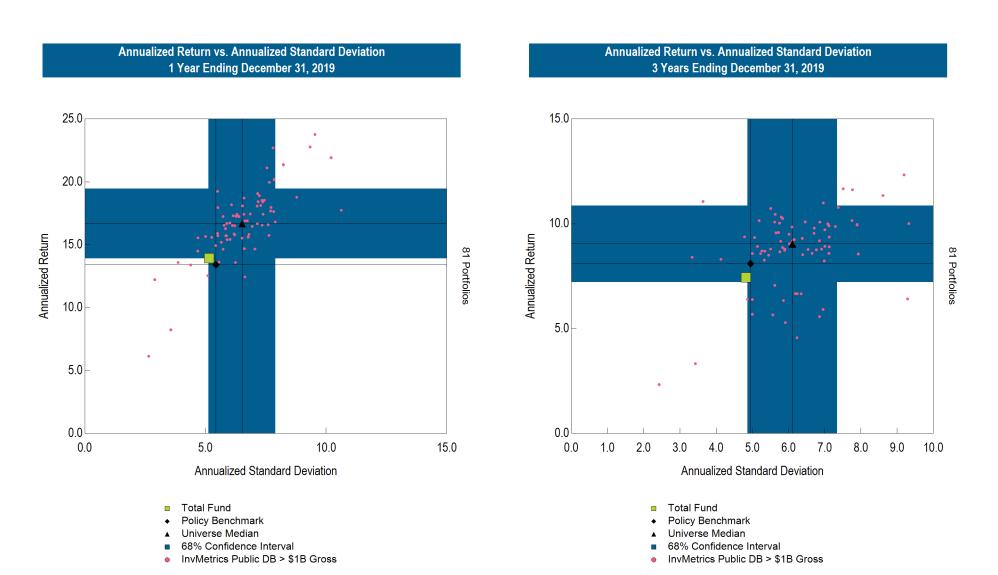
		Attribution	Summary			
	3 Yea	rs Ending De	ecember 31,	2019		
	Wtd. Actual	Wtd. Index	Excess	Selection	Allocation	Total
	Return	Return	Return	Effect	Effect	Effects
Public Equity	11.4%	12.2%	-0.8%	-0.3%	0.0%	-0.3%
Private Markets	9.3%	9.7%	-0.4%	-0.1%	0.0%	-0.1%
High Yield Debt	-	4.7%		0.0%	0.0%	0.0%
Emerging Market Debt	6.8%	6.9%	-0.2%	0.0%	0.0%	0.0%
Short-Term IG Bonds		1.7%		-0.1%	-0.2%	-0.3%
Immunized Cash Flows				0.0%	0.0%	0.0%
Absolute Return	4.5%	1.1%	3.4%	0.3%	-0.1%	0.1%
Cash	1.8%	1.7%	0.1%	0.0%	0.0%	0.0%
Core Real Estate	6.5%	6.5%	0.1%	0.0%	0.0%	0.0%
Commodities	2.4%	-0.9%	3.4%	0.2%	0.0%	0.2%
TIPS		1.5%		0.0%	0.0%	0.0%
Sovereign Bonds ex-US		2.2%		0.0%	0.0%	0.0%
Core Bonds		3.0%		0.1%	0.1%	0.1%
Overlay		1.1%		-0.1%	-0.1%	-0.1%
GTAA				-0.3%	0.0%	-0.3%
Total	7.4%	8.1%	-0.7%	-0.4%	-0.3%	-0.7%





	Quarter-To-Date	One Year	Three Years	Five Years
Beginning Market Value	\$3,647,566,683	\$3,454,337,087	\$3,235,567,346	\$3,040,066,138
Net Cash Flow	-\$13,458,156	-\$233,003,232	-\$333,890,090	-\$404,291,304
Net Investment Change	\$178,057,817	\$590,832,490	\$910,489,088	\$1,176,391,511
Ending Market Value	\$3,812,166,344	\$3,812,166,344	\$3,812,166,344	\$3,812,166,344

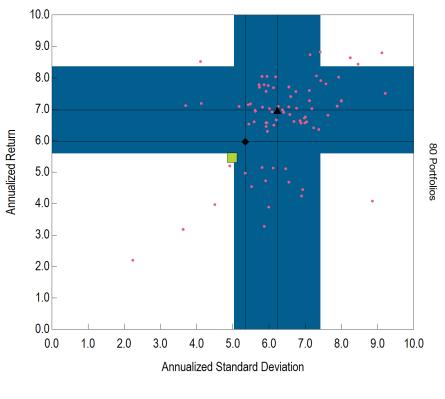






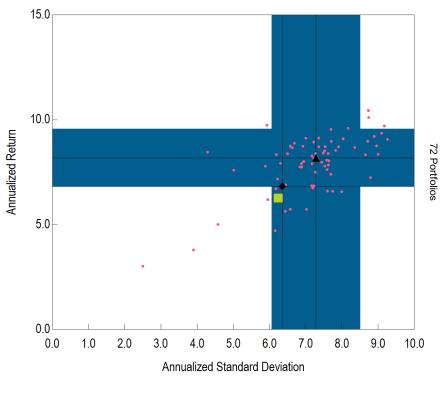
#### Total Fund | As of December 31, 2019

# Annualized Return vs. Annualized Standard Deviation 5 Years Ending December 31, 2019



- Total Fund
- Policy Benchmark
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Gross

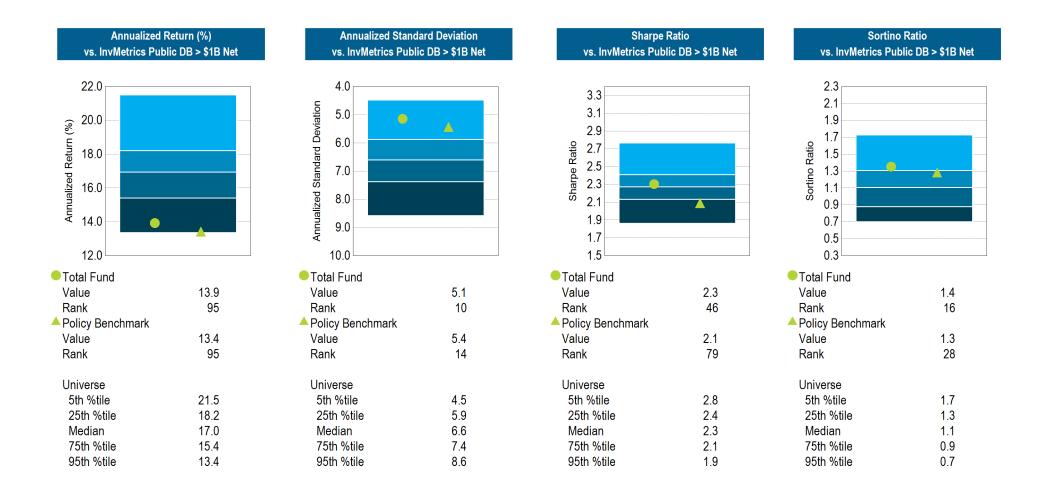
# Annualized Return vs. Annualized Standard Deviation 10 Years Ending December 31, 2019



- Total Fund
- Policy Benchmark
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Gross

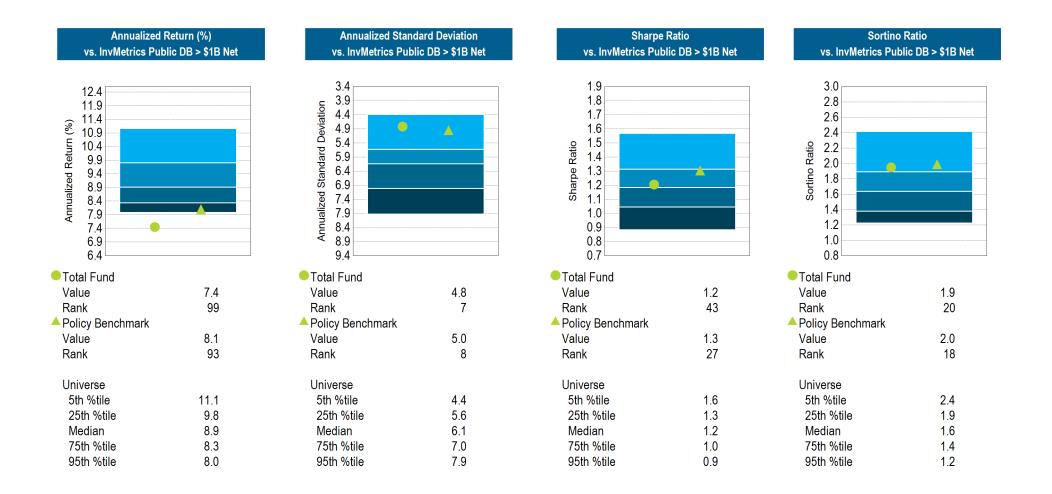


#### Total Fund | One Year As of December 31, 2019



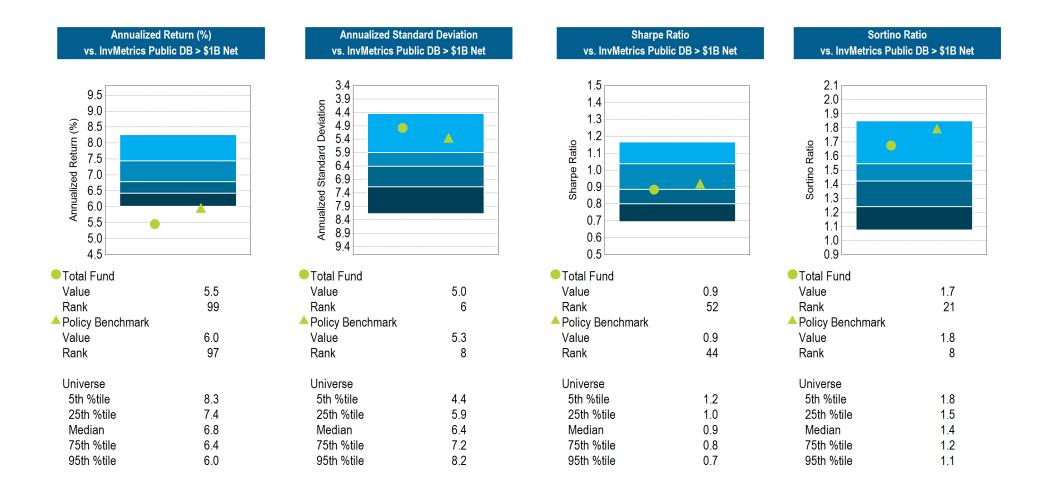


#### Total Fund | Three Years As of December 31, 2019



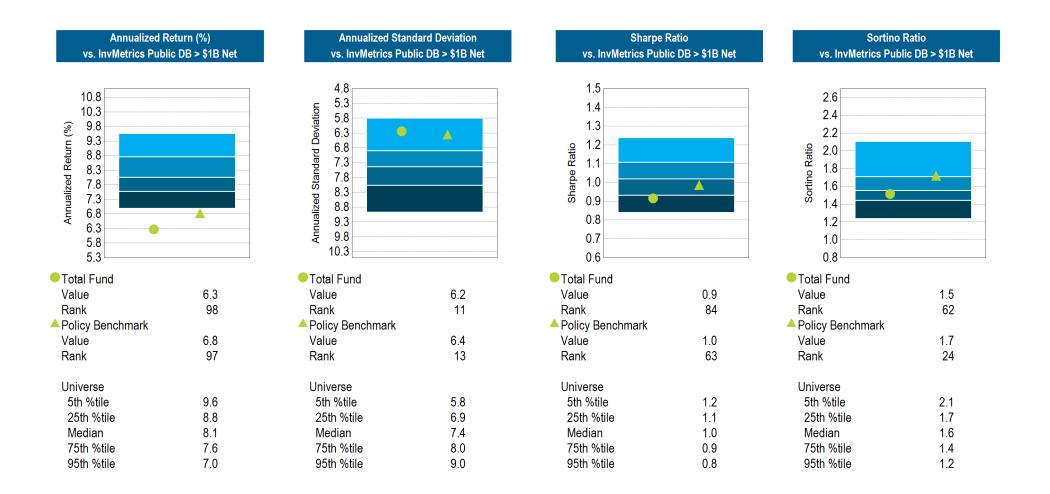


#### Total Fund | Five Years As of December 31, 2019

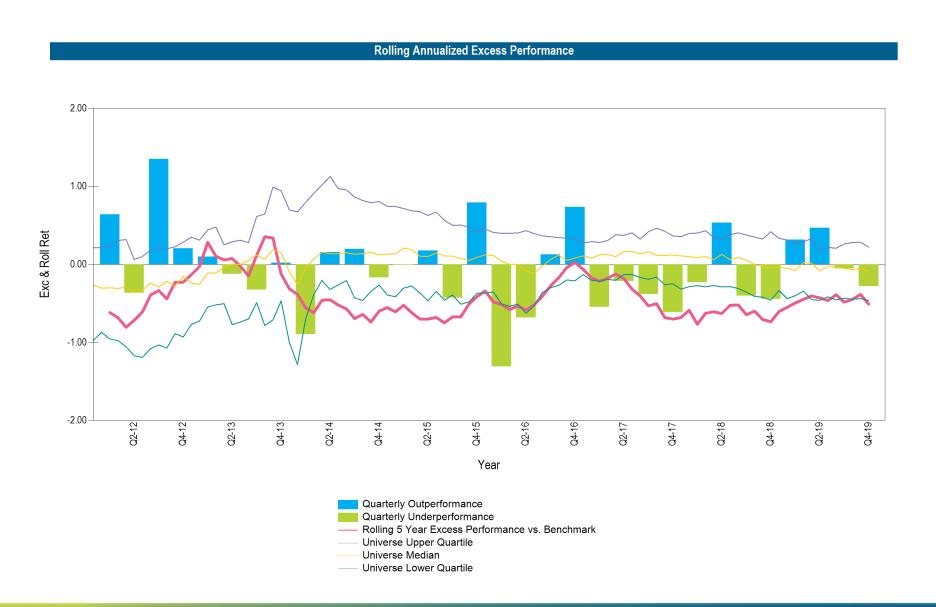




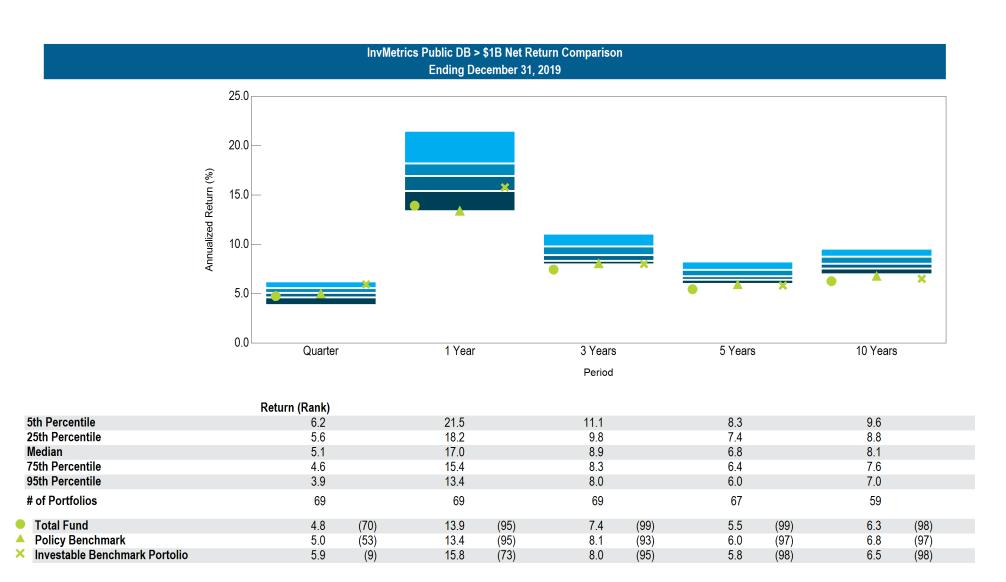
#### Total Fund | Ten Years As of December 31, 2019





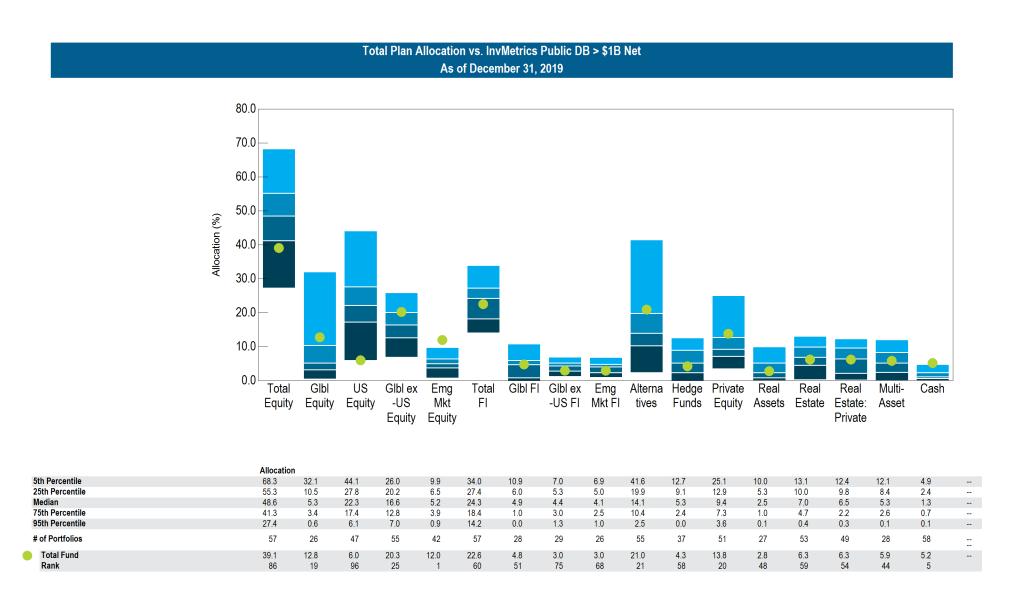






<sup>&</sup>lt;sup>1</sup> Fiscal Year begins July 1.







Total Fund | As of December 31, 2019

	Major Benchmark F	Returns			
	Periods Ending Decemb	er 31, 2019			
Name	Q4-19	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity					
Russell 3000	9.1	31.0	14.6	11.2	13.4
S&P 500	9.1	31.5	15.3	11.7	13.6
Russell 1000	9.0	31.4	15.0	11.5	13.5
Russell 1000 Growth	10.6	36.4	20.5	14.6	15.2
Russell 1000 Value	7.4	26.5	9.7	8.3	11.8
Russell MidCap	7.1	30.5	12.1	9.3	13.2
Russell 2000	9.9	25.5	8.6	8.2	11.8
Russell 2000 Growth	11.4	28.5	12.5	9.3	13.0
Russell 2000 Value	8.5	22.4	4.8	7.0	10.6
International Equity					
MSCI ACWI	9.0	26.6	12.4	8.4	8.8
MSCI World ex USA	7.9	22.5	9.3	5.4	5.3
MSCI EAFE	8.2	22.0	9.6	5.7	5.5
MSCI Emerging Markets	11.8	18.4	11.6	5.6	3.7
Fixed Income					
91 Day T-Bills	0.4	2.1	1.6	1.1	0.6
BBgBarc US Aggregate TR	0.2	8.7	4.0	3.0	3.7
BBgBarc US Govt/Credit TR	0.0	9.7	4.3	3.2	4.0
BBgBarc US Municipal TR	0.7	7.5	4.7	3.5	4.3
BBgBarc US High Yield TR	2.6	14.3	6.4	6.1	7.6
FTSE WGBI TR	-0.4	5.9	4.1	2.0	1.9
FTSE WGBI ex US TR	-0.1	5.3	4.5	1.9	1.4
Real Estate					
FTSE NAREIT All REIT	0.5	28.1	10.3	8.4	12.5
NCREIF Property Index	1.6	6.4	6.7	8.2	10.2
Alternatives					
HFRI Fund of Funds Composite Index	3.1	8.4	3.9	2.4	2.8
Inflation					
Consumer Price Index	0.1	2.3	2.1	1.8	1.8



				Sta	atistics Su	mmary						
					nding Dece		2019					
	% of Total MV	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Anlzd Alpha J	Anlzd Alpha J Rank	Tracking Error	Information Ratio	Information RatioRank	Beta	Sharpe Ratio
Total Fund	100.00%	7.45%	99	4.82%	7	-0.35%	60	1.00%	-0.65	80	0.95	1.20
Policy Benchmark		8.10%	93	4.95%	8	0.00%	51	0.00%			1.00	1.30
Growth	63.84%	10.07%		7.38%		-0.29%		1.32%	-0.73		0.93	1.14
Growth Benchmark		11.04%		7.84%		0.00%		0.00%			1.00	1.20
Public Equity	39.35%	11.35%		10.77%		-0.09%		1.51%	-0.54		0.93	0.90
Public Equity Benchmark		12.16%		11.48%		0.00%		0.00%			1.00	0.92
Global Equity	11.56%	13.91%	30	11.98%	57	1.55%	42	2.11%	0.86	22	1.03	1.02
MSCI ACWI IMI		12.09%	47	11.49%	45	0.00%	59	0.00%			1.00	0.91
U.S. Equity	7.28%	13.01%	42	12.54%	31	-1.06%	45	1.68%	-0.60	56	1.00	0.91
MSCI USA IMI NR USD		14.02%	36	12.38%	28	0.00%	39	0.00%			1.00	1.00
International Equity	8.27%	8.96%	83	12.05%	41	-1.13%	84	2.18%	-0.24	87	1.08	0.61
MSCI World ex USA IMI NR USD		9.49%	78	11.04%	21	0.00%	70	0.00%			1.00	0.71
Emerging Markets Equity	12.00%	7.76%	89	13.39%	28	-2.57%	91	2.81%	-1.15	99	0.93	0.46
MSCI Emerging Market IMI Net		11.00%	50	14.14%	55	0.00%	55	0.00%			1.00	0.66
Marketable Alternative Equity	0.24%	6.74%		4.95%		3.37%		5.86%	0.10		0.38	1.03
HFRI Equity Hedge (Total) Index		6.16%		6.49%		0.00%		0.00%			1.00	0.70
Private Markets	21.52%	9.26%		4.27%		0.67%		2.35%	-0.17		0.87	1.78
Private Markets Benchmark		9.66%		4.17%		0.00%		0.00%			1.00	1.92
Private Markets ex Russell 3000	14.69%	8.45%		2.37%		6.22%		4.52%	-0.27		0.07	2.87
Private Markets Benchmark		9.66%		4.17%		0.00%		0.00%			1.00	1.92



### Total Fund | As of December 31, 2019

								-	_			
	% of Total MV	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	AnIzd Standard Deviation Rank	Anlzd Alpha J	Anlzd Alpha J Rank	Tracking Error	Information Ratio	Information RatioRank	Beta	Sharpe Ratio
Private Equity	13.51%	14.04%		6.72%		12.79%		9.70%	0.03		-0.03	1.84
San Jose Custom Private Equity Benchmark		13.78%		6.77%		0.00%		0.00%			1.00	1.79
Private Equity ex Russell 3000	7.10%	15.43%		2.92%		14.07%		7.52%	0.22		-0.02	4.72
San Jose Custom Private Equity Benchmark		13.78%		6.77%		0.00%		0.00%			1.00	1.79
Northern Trust Russell 3000	6.40%	14.63%		12.39%		0.06%		0.04%	1.41		1.00	1.05
Russell 3000		14.57%		12.38%		0.00%		0.00%			1.00	1.04
Private Debt	4.33%	2.90%		3.31%		-0.20%		3.78%	-0.98		0.29	0.38
S&P Global Leveraged Loan + 2%		6.62%		2.85%		0.00%		0.00%			1.00	1.75
Private Real Estate	2.75%	11.31%		4.15%		12.92%		6.06%	0.65		-0.57	2.33
NCREIF ODCE Equal Weighted		7.37%		3.03%		0.00%		0.00%			1.00	1.89
High Yield Debt												
50% Bofa Global HY/50% S&P Global Leveraged Loan		5.52%		3.37%		0.00%		0.00%			1.00	1.15
Emerging Market Debt	2.98%	6.75%	34	4.47%	22	2.57%	12	4.64%	-0.04	32	0.48	1.14
50% JPM EMBI GD / 50% JPM GBI-EM		6.92%	29	6.60%	55	0.00%	50	0.00%			1.00	0.80
Zero Beta	25.38%	2.87%		1.28%		1.35%		2.26%	0.74		0.28	0.96
Zero Beta Benchmark		1.21%		2.78%		0.00%		0.00%			1.00	-0.16
Absolute Return	6.54%	4.52%		2.34%		3.07%		2.93%	1.17		0.35	1.23
Absolute Return Benchmark	-	1.10%		3.22%		0.00%		0.00%		-	1.00	-0.17



### Total Fund | As of December 31, 2019

	% of Total MV	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Anlzd Alpha J	Anlzd Alpha J Rank	Tracking Error	Information Ratio	Information RatioRank	Beta	Sharpe Ratio
Macro	2.71%	2.73%		4.74%		1.26%		2.96%	0.44		0.86	0.23
HFRI Macro (Total) Index		1.44%		4.37%		0.00%		0.00%			1.00	-0.05
Relative Value	3.82%	6.16%		1.85%		4.09%		2.75%	0.79		0.19	2.44
HFRI Relative Value (Total) Index		3.99%		2.56%		0.00%		0.00%			1.00	0.92
Cash	0.63%	1.80%		0.34%		0.14%		0.33%	0.40		0.59	0.47
ICE BofAML 91 Days T-Bills TR		1.67%		0.20%		0.00%		0.00%			1.00	0.13
Other	10.63%	4.25%		2.63%		0.70%		1.60%	0.07		0.77	0.99
Other Benchmark		4.13%		2.87%		0.00%		0.00%			1.00	0.87
Core Real Estate	3.82%	6.54%		2.87%		7.01%		4.66%	0.02		-0.44	1.71
NCREIF ODCE Equal Weighted (Net)		6.47%		2.68%		0.00%		0.00%			1.00	1.80
Commodities	1.99%	2.41%		7.03%		2.55%		4.64%	0.72		0.69	0.11
Bloomberg Commodity Index TR USD		-0.94%		8.58%		0.00%		0.00%			1.00	-0.30
Core Bonds	0.00%											
BBgBarc Global Aggregate TR		4.27%		3.58%		0.00%		0.00%			1.00	0.73
Overlay	0.15%											
91 Day T-Bills		1.64%		0.17%		0.00%		0.00%			1.00	0.00



Total Fund | As of December 31, 2019

		Benchmark History
		As of December 31, 2019
Total Fund		
12/1/2019	Present	14% MSCI USA IMI NR USD / 11% MSCI World ex USA IMI NR USD / 13% MSCI Emerging Market IMI Net / 22% Private Markets Benchmark / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 15% BBgBarc US Govt/Credit 1-3 Yr. TR / 5% Immunized Cash Flow Benchmark / 5% Absolute Return Benchmark / 5% NCREIF-ODCE / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR / 2% BBgBarc US Treasury TIPS 0-5 Yr TR
11/1/2019	11/30/2019	13% MSCI USA IMI NR USD / 11% MSCI World ex USA IMI NR USD / 13% MSCI Emerging Market IMI Net / 22% Private Markets Benchmark / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 16% BBgBarc US Govt/Credit 1-3 Yr. TR / 5% Immunized Cash Flow Benchmark / 5% Absolute Return Benchmark / 5% NCREIF-ODCE / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR / 2% BBgBarc US Treasury TIPS 0-5 Yr TR
9/1/2019	10/31/2019	13% MSCI USA IMI NR USD / 10% MSCI World ex USA IMI NR USD / 13% MSCI Emerging Market IMI Net / 22% Private Markets Benchmark / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 17% BBgBarc US Govt/Credit 1-3 Yr. TR / 5% Immunized Cash Flow Benchmark / 5% Absolute Return Benchmark / 5% NCREIF-ODCE / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR / 2% BBgBarc US Treasury TIPS 0-5 Yr TR
10/1/2018	8/31/2019	13% MSCI USA IMI NR USD / 8% MSCI World ex USA IMI NR USD / 10% MSCI Emerging Market IMI Net / 22% Private Markets Benchmark / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 20% ICE BofAML 91 Days T-Bills TR / 5% Immunized Cash Flow Benchmark / 7% Absolute Return Benchmark / 5% NCREIF-ODCE / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR / 2% BBgBarc US Treasury TIPS 0-5 Yr TR
5/1/2018	9/30/2018	34% MSCI ACWI IMI (Net) / 8% San Jose Custom Total Private Equity Index / 22.4% BBgBarc Global Aggregate TR / 1.4% S&P Global Leveraged Loan / 1.4% JP Morgan EMBI Global Diversified / 1.4% JP Morgan GBI EM Global Diversified TR USD / 6% HFRI Macro (Total) Index / 2% DJ Brookfield Global Infrastructure Net TR USD / 6% Bloomberg Commodity Index TR USD / 8% S&P Global Leveraged Loan + 2% / 8% NCREIF Property Index / 1.4% ICE BofAML Global High Yield TR
11/1/2016	4/30/2018	31% MSCI ACWI IMI (Net) / 8% San Jose Custom Total Private Equity Index / 16% Fixed Income Blended Benchmark / 11% S&P Global Leveraged Loan + 2% / 7% Custom Commodity Risk Parity Index / 3% CPI + 5% (Unadjusted) / 10% 60% MSCI World & 40% Citigroup WGBI / 1% 91 Day T-Bills / 7% San Jose Custom Total Real Estate BM / 6% Absolute Return Benchmark



Total Fund | As of December 31, 2019

Low-Cost Passiv	e Portfolio						
12/1/2019	Present	14% MSCI USA IMI NR USD / 11% MSCI World ex USA IMI NR USD / 13% MSCI Emerging Market IMI Net / 12% Russell 3000 / 4% BBgBarc US Aggregate TR / 8% FTSE EPRA/NAREIT Global NR USD / 3% S&P Global Natural Resources Net USD / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 5% ICE BofAML 91 Days T-Bills TR / 5% 3-Month Libor +1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR/15% BBgBarc US Govt/Credit 1-3 Yr. TR					
11/1/2019	11/30/2019	13% MSCI USA IMI NR USD / 11% MSCI World ex USA IMI NR USD / 13% MSCI Emerging Market IMI Net / 12% Russell 3000 / 4% BBgBarc US Aggregate TR / 8% FTSE EPRA/NAREIT Global NR USD / 3% S&P Global Natural Resources Net USD / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 5% ICE BofAML 91 Days T-Bills TR / 5% 3-Month Libor +1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR/16% BBgBarc US Govt/Credit 1-3 Yr. TR					
9/1/2019	10/31/2019	13% MSCI USA IMI NR USD / 10% MSCI World ex USA IMI NR USD / 13% MSCI Emerging Market IMI Net / 12% Russell 3000 / 4% BBgBarc US Aggregate TR / 8% FTSE EPRA/NAREIT Global NR USD / 3% S&P Global Natural Resources Net USD / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 5% ICE BofAML 91 Days T-Bills TR / 5% 3-Month Libor +1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR/17% BBgBarc US Govt/Credit 1-3 Yr. TR					
10/1/2018	8/31/2019	13% MSCI USA IMI NR USD / 8% MSCI World ex USA IMI NR USD / 10% MSCI Emerging Market IMI Net / 12% Russell 3000 / 4% BBgBarc US Aggregate TR / 8% FTSE EPRA/NAREIT Global NR USD / 3% S&P Global Natural Resources Net USD / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 25% ICE BofAML 91 Days T-Bills TR / 7% 3-Month Libor + 1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR					
Liability Driv	Liability Driven Benchmark Portfolio						
10/1/2018	Present	BBgBarc US Treasury Long TR					



### Total Fund | As of December 31, 2019

Growth  12/1/2019 Present 60.32% Public Equity Benchmark / 34.92% Private Markets Benchmark / 4.76% 50% JPM EMBI GD / 50% JPM GBI-EM  11/1/2019 11/30/2019 59.68% Public Equity Benchmark / 35.48% Private Markets Benchmark / 4.88% 50% JPM EMBI GD / 50% JPM GBI-EM  9/1/2019 10/31/2019 59.02% Public Equity Benchmark / 36.07% Private Markets Benchmark / 4.92% 50% JPM EMBI GD / 50% JPM GBI-EM  10/1/2018 8/31/2019 51.73% Public Equity Benchmark / 43.1% Private Markets Benchmark / 5.17% 50% JPM EMBI GD / 50% JPM GBI-EM	
11/1/2019 11/30/2019 59.68% Public Equity Benchmark / 35.48% Private Markets Benchmark / 4.88% 50% JPM EMBI GD / 50% JPM GBI-EM 59.02% Public Equity Benchmark / 36.07% Private Markets Benchmark / 4.92% 50% JPM EMBI GD / 50% JPM GBI-EM	
9/1/2019 10/31/2019 59.02% Public Equity Benchmark / 36.07% Private Markets Benchmark / 4.92% 50% JPM EMBI GD / 50% JPM GBI-EM	
10/1/2018 8/31/2019 51.73% Public Equity Benchmark / 43.1% Private Markets Benchmark / 5.17% 50% JPM EMBI GD / 50% JPM GBI-EM	
55.18% MSCI ACWI IMI Net USD / 12.99% S&P Global Leveraged Loan Index +2% / 12.99% Private Markets Benchmark / 6.49% NCR 5/1/2018 9/30/2018 Index / 4.55% 50% JPM EMBI GD / 50% JPM GBI-EM / 4.55% 50% BAML Global HY / 50% S&P Global Leveraged Loan / 3.25% DJ B Infrastructure Net TR USD	
7/1/2015 4/30/2018 51.92% MSCI ACWI IMI Net USD / 18.43% S&P Global Leveraged Loan Index +2% / 13.4% Private Markets Benchmark / 2.68% 50% JPM GBI-EM / 2.68% 50% BAML Global HY / 50% S&P Global Leveraged Loan	JPM EMBI GD /
Public Equity	
12/1/2019 Present 36.84% MSCI USA IMI NR USD / 28.95% MSCI World ex USA IMI NR USD / 34.21% MSCI Emerging Market IMI Net	
11/1/2019 11/30/2019 35.13% MSCI USA IMI NR USD / 29.73% MSCI World ex USA IMI NR USD / 35.13% MSCI Emerging Market IMI Net	
9/1/2019 10/31/2019 36.11% MSCI USA IMI NR USD / 27.78% MSCI World ex USA IMI NR USD / 36.11% MSCI Emerging Market IMI Net	
10/1/2018 8/31/2019 41.93% MSCI USA IMI NR USD / 25.81% MSCI World ex USA IMI NR USD / 32.26% MSCI Emerging Market IMI Net	
4/1/2008 9/30/2018 MSCI ACWI IMI (Net)	
Global Equity	
3/1/2013 Present MSCI ACWI IMI Index	
U.S. Equity	
6/1/1995 Present MSCI USA IMI NR USD	
International Equity	
6/1/1995 Present MSCI World ex USA IMI NR USD	
Emerging Markets Equity	
9/1/2001 Present MSCI Emerging Market IMI Net	
Marketable Alternative Equity	
10/1/2014 Present HFRI Equity Hedge (Total) Index	
Private Markets	
10/1/2018 Present Private Markets	



### Total Fund | As of December 31, 2019

5/1/2018	9/30/2018	36.36% Cambridge Associates PE Composite BM / 36.36% S&P Global Leveraged Loan Index +2% / 18.18% NCREIF Property Index / 9.1% DJ Brookfield Global Infrastructure Net TR USD
7/1/2015	4/30/2018	19.61% Cambridge Associates PE Composite BM / 11.76% Russell 3000 / 43.14% S&P Global Leveraged Loan Index +2% / 13.73% NCREIF Property Index / 11.76% DJ Brookfield Global Infrastructure Net TR USD
Private M	larkets ex Russ	sell 3000
10/1/2018	Present	Private Markets
5/1/2018	9/30/2018	36.36% Cambridge Associates PE Composite BM / 36.36% S&P Global Leveraged Loan Index +2% / 18.18% NCREIF Property Index / 9.1% DJ Brookfield Global Infrastructure Net TR USD
7/1/2015	4/30/2018	19.61% Cambridge Associates PE Composite BM / 11.76% Russell 3000 / 43.14% S&P Global Leveraged Loan Index +2% / 13.73% NCREIF Property Index / 11.76% DJ Brookfield Global Infrastructure Net TR USD
Private	Equity	
11/1/2016	Present	Cambridge Glob Priv Eq Qtr Lag
10/1/2005	10/31/2016	Cambridge Associates US All PE (1 Qtr Lag)
Priva	te Equity ex Ru	ussell 3000
11/1/2016	Present	Cambridge Glob Priv Eq Qtr Lag
10/1/2005	10/31/2016	Cambridge Associates US All PE (1 Qtr Lag)
Pri	vate Equity ex	Russell 3000
		No Benchmark Selected
North	nern Trust Rus	sell 3000
4/1/2014	Present	Russell 3000
Private	Debt	
10/1/2015	Present	S&P Global Leveraged Loan + 0.17
Private	Real Estate	
7/1/2015	Present	NCREIF ODCE Equal Weighted
Private	Real Assets	
		No Benchmark Selected
High Yield D	Debt	
10/1/2015	Present	50% ICE BofAML Global High Yield TR / 50% S&P Global Leveraged Loan



### Total Fund | As of December 31, 2019

Emerging N	Market Debt	
1/1/2013	Present	50% JP Morgan GBI EM Global Diversified TR USD / 50% JP Morgan EMBI Global Diversified
Zero Beta		
12/1/2019	Present	20% ICE BofAML 91 Days T-Bills TR / 60% BBgBarc US Govt/Credit 1-3 Yr. TR / 20% Absolute Return Benchmark
11/1/2019	11/30/2019	19.23% ICE BofAML 91 Days T-Bills TR / 61.54% BBgBarc US Govt/Credit 1-3 Yr. TR / 19.23% Absolute Return Benchmark
9/1/2019	10/31/2019	18.52% ICE BofAML 91 Days T-Bills TR / 62.96% BBgBarc US Govt/Credit 1-3 Yr. TR / 18.52% Absolute Return Benchmark
10/1/2018	8/31/2019	62.5% ICE BofAML 91 Days T-Bills TR / 15.62% Immunized Cash Flow Benchmark / 21.88% Absolute Return Benchmark
5/1/2018	9/30/2018	HFRI Macro (Total) Index
7/1/2015	4/30/2018	85.71% HFRI Macro (Total) Index / 14.29% ICE BofAML 91 Days T-Bills TR
Short-Term	n IG Bonds	
10/1/2018	Present	BBgBarc US Govt/Credit 1-3 Yr. TR
Immunized	Cash Flows	
10/1/2018	Present	Immunized Cash Flows
Absolute Re	eturn	
10/1/2018	Present	ICE BofAML 91 Days T-Bills TR
11/1/2012	9/30/2018	HFRI Macro (Total) Index
Macro		
7/1/2015	Present	HFRI Macro (Total) Index
Relative \	Value	
7/1/2015	Present	HFRI Relative Value (Total) Index
Cash		
7/1/2002	Present	ICE BofAML 91 Days T-Bills TR
Other		
10/1/2018	Present	41.67% NCREIF ODCE Equal Weighted / 16.67% Bloomberg Commodity Index TR USD / 25% FTSE WGBI ex US TR / 16.66% BBgBarc US Treasury TIPS 0-5 Yr TR
5/1/2018	9/30/2018	69.14% BBgBarc Global Aggregate TR / 18.52% Bloomberg Commodity Index TR USD / 12.34% NCREIF Property Index
7/1/2015	4/30/2018	38.44% BBgBarc Global Aggregate TR / 30.03% 60% MSCI World & 40% Citigroup WGBI / 21.02% Bloomberg Commodity Index TR USD / 10.51% NCREIF Property Index



### Total Fund | As of December 31, 2019

Core Real Estate		
9/1/2011	Present	NCREIF ODCE Equal Weighted (Net)
Commodities		
4/1/2011	Present	Bloomberg Commodity Index TR USD
TIPS		
10/1/2018	Present	BBgBarc US Treasury TIPS 0-5 Yr TR
Sovereign Bonds ex-US		
10/1/2018	Present	FTSE WGBI ex US TR
Core Bonds		
10/1/2015	Present	BBgBarc Global Aggregate TR
Overlay		
	Present	91 Day T-Bills



Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

**Duration:** Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

**Information Ratio:** This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- [Risk Free Rate+Beta\*(market return-Risk Free Rate)].

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

**Market Weighted:** Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

**Prepayment Risk:** The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

**Price-Book Value (P/B) Ratio:** The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.



Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about is future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

**STIF Account**: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

**Standard Deviation:** A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

**Style:** The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.



**Yield to Maturity:** The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

The Russell Indices, TM, SM are trademarks/service marks of the Frank Russell Company.

Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.