



LSU-HSSD HEARDQUARTERS TAX DEFERRED ANNUITY PLAN

Investment Performance as of 6/30/2020

The performance data quoted represents past performance, and is no guarantee of future results. Your returns and the principal value of your investment will fluctuate so that your mutual fund shares and annuity account accumulation units, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted. For performance current to the most recent month-end, call 800-842-2252 or visit TIAA.org/planinvestmentoptions and enter your plan ID. Performance may reflect waivers or reimbursements of certain expenses. Absent these waivers or reimbursement arrangements, performance results would have been lower. Since Inception performance shown is cumulative for periods less than one year.

| Equities - Variable Annuity | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|--|----------------------|----------------------|---------------|--------|------------------------------|--------|--------|-----------------------------|--|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| CREF Equity Index Account (R2) (QCEQPX) ^{1,2,3,4} | Large Blend | 04/24/15 04/29/94 | 21.86% | -3.58% | 6.29% | 9.78% | 9.74% | 13.35% | 0.29% | 0.29% | | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. Pln Svcs Credit: 0.075%/quarterly |
| Benchmark: Russell 3000 TR USD | | | 22.03% | -3.48% | 6.53% | 10.04% | 10.03% | 13.72% | | | | |
| CREF Global Equities Account (R2) (QCGLPX) ^{1,2,3,4,5} | World Large Stock | 04/24/15 05/01/92 | 22.60% | -4.04% | 5.13% | 6.52% | 6.21% | 9.78% | 0.36% | 0.36% | | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. Pln Svcs Credit: 0.075%/quarterly |
| Benchmark: MSCI ACWI NR USD | | | 19.22% | -6.25% | 2.11% | 6.14% | 6.46% | 9.16% | | | | |

Investment products, insurance and annuity products: are not FDIC insured, are not bank guaranteed, are not deposits, are not insured by any federal government agency, are not a condition to any banking service or activity, and may lose value.

| Equities - Variable Annuity | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|--|----------------------------|----------------------|---------------|--------|------------------------------|--------|--------|-----------------------------|--|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| CREF Growth Account (R2) (QCGRPX) ^{1,2,3,4,6} | Large Growth | 04/24/15 04/29/94 | 29.30% | 11.52% | 20.41% | 17.93% | 14.38% | 16.62% | 0.32% | 0.32% | | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. Pln Svcs Credit: 0.075%/quarterly |
| Benchmark: Russell 1000 Growth TR USD | | | 27.84% | 9.81% | 23.28% | 18.99% | 15.89% | 17.23% | | | | |
| CREF Stock Account (R2) (QCSTPX) ^{1,2,3,4} | Allocation-85% + Equity | 04/24/15 07/31/52 | 21.31% | -5.89% | 2.25% | 6.39% | 6.89% | 10.61% | 0.39% | 0.39% | | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. Pln Svcs Credit: 0.075%/quarterly |
| Benchmark: CREF Stock Account Composite Index | | | 20.52% | -5.84% | 3.08% | 7.30% | 7.71% | 11.14% | | | | |
| Benchmark: Morningstar Aggressive Target Risk TR USD | | | 18.30% | -8.58% | -0.81% | 5.44% | 6.38% | 9.84% | | | | |

| Equities - Mutual Fund | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|--|----------------------|----------------|---------------|---------|------------------------------|--------|--------|-----------------------------|--|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| American Funds EuroPacific Growth Fund Class R-6 (RERGX) ^{5,6,7} | Foreign Large Growth | 05/01/09 | 22.77% | -4.77% | 3.17% | 4.76% | 4.90% | 7.48% | 0.46% | 0.46% | | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI ACWI Ex USA NR USD | | | 16.12% | -11.00% | -4.80% | 1.13% | 2.26% | 4.97% | | | | |
| DFA U.S. Targeted Value Portfolio Institutional Class (DFFVX) ^{7,8,9} | Small Value | 02/23/00 | 23.56% | -24.86% | -19.38% | -5.44% | -0.63% | 8.04% | 0.36% | 0.36% | | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: Russell 2000 Value TR USD | | | 18.91% | -23.50% | -17.48% | -4.35% | 1.26% | 7.82% | | | | |

| Equities - Mutual Fund | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|--|----------------------|----------------|---------------|---------|------------------------------|--------|--------|-----------------------------|--|-------|-----------------------|---|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| Vanguard 500 Index Fund Admiral Shares (VFIAX) ⁷ | Large Blend | 11/13/00 | 20.54% | -3.10% | 7.47% | 10.69% | 10.69% | 13.95% | 0.04% | 0.04% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: S&P 500 TR USD | | | 20.54% | -3.08% | 7.51% | 10.73% | 10.73% | 13.99% | | | | |
| Vanguard Equity-Income Fund Admiral Shares (VEIRX) ^{7,8,10} | Large Value | 08/13/01 | 12.67% | -13.31% | -5.45% | 4.44% | 7.15% | 12.02% | 0.18% | 0.18% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: Russell 1000 Value TR USD | | | 14.29% | -16.26% | -8.84% | 1.82% | 4.64% | 10.41% | | | | |
| Vanguard Explorer Fund Admiral Shares (VEXRX) ^{6,7,9} | Small Growth | 11/12/01 | 32.80% | -2.70% | 4.39% | 11.40% | 9.23% | 13.89% | 0.34% | 0.34% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: Russell 2500 Growth TR USD | | | 32.87% | 2.02% | 9.21% | 12.10% | 9.57% | 14.45% | | | | |
| Vanguard International Value Fund Investor Shares (VTRIX) ^{5,7,8,11} | Foreign Large Value | 05/16/83 | 15.08% | -15.19% | -8.90% | -0.77% | 0.69% | 4.85% | 0.37% | 0.37% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI ACWI Ex USA NR USD | | | 16.12% | -11.00% | -4.80% | 1.13% | 2.26% | 4.97% | | | | |
| Vanguard Mid-Cap Index Fund Admiral Shares (VIMAX) ^{7,9} | Mid-Cap Blend | 11/12/01 | 24.96% | -7.18% | -0.20% | 6.45% | 6.99% | 12.47% | 0.05% | 0.05% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: CRSP US Mid Cap TR USD | | | 24.97% | -7.20% | -0.20% | 6.47% | 7.01% | 12.62% | | | | |
| Vanguard Small-Cap Index Fund Admiral Shares (VSMAX) ^{7,9} | Small Blend | 11/13/00 | 26.66% | -11.42% | -5.60% | 3.99% | 5.40% | 11.59% | 0.05% | 0.05% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: CRSP US Small Cap TR USD | | | 26.66% | -11.44% | -5.65% | 3.98% | 5.38% | 11.78% | | | | |
| Vanguard Total International Stock Index Fund Admiral Shares (VTIAX) ^{5,7,10} | Foreign Large Blend | 11/29/10 | 18.11% | -10.59% | -4.09% | 1.09% | 2.42% | 3.72% | 0.11% | 0.11% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI ACWI Ex USA NR USD | | | 16.12% | -11.00% | -4.80% | 1.13% | 2.26% | 3.53% | | | | |

| Equities - Mutual Fund | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|---|----------------------|----------------|---------------|--------|------------------------------|--------|--------|-----------------------------|--|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| Vanguard U.S. Growth Fund Admiral Shares (VWUAX) ^{5,7} | Large Growth | 08/13/01 | 35.72% | 19.46% | 29.85% | 22.21% | 16.59% | 17.88% | 0.28% | 0.28% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: Russell 1000 Growth TR USD | | | 27.84% | 9.81% | 23.28% | 18.99% | 15.89% | 17.23% | | | | |

| Real Estate - Variable Annuity | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|--|----------------------|----------------|---------------|--------|------------------------------|--------|--------|-----------------------------|--|-------|-----------------------|---|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| TIAA Real Estate Account (QREARX) ^{3,12,13} | Miscellaneous Sector | 10/02/95 | -1.46% | -1.36% | 0.99% | 3.75% | 4.42% | 8.17% | 0.78% | 0.78% | - | Transfers out: Limit 1 per quarter. Limitations may apply to any transaction resulting in a balance > \$150,000. Pln Svcs Credit: 0.115%/quarterly |

| Fixed Income - Variable Annuity | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|--|--------------------------|----------------------|---------------|-------|------------------------------|--------|--------|-----------------------------|--|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| CREF Bond Market Account (R2) (QCBMPX) ^{1,2,3,4} | Intermediate Core Bond | 04/24/15 03/01/90 | 4.88% | 5.06% | 7.63% | 5.03% | 4.30% | 3.84% | 0.32% | 0.32% | - | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. Pln Svcs Credit: 0.075%/quarterly |
| Benchmark: Bloomberg Barclays US Aggregate Bond TR USD | | | 2.90% | 6.14% | 8.74% | 5.32% | 4.30% | 3.82% | | | | |
| CREF Inflation-Linked Bond Account (R2) (QCILPX) ^{1,2,3,4} | Inflation-Protected Bond | 04/24/15 05/01/97 | 3.57% | 4.10% | 5.61% | 3.71% | 2.78% | 2.81% | 0.29% | 0.29% | - | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. Pln Svcs Credit: 0.075%/quarterly |
| Benchmark: Bloomberg Barclays US Treasury Inflation Notes 1-10 Yr TR USD | | | 3.76% | 4.08% | 5.75% | 3.94% | 2.97% | 2.66% | | | | |

| Fixed Income - Mutual Fund | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|--|-----------------------------|----------------|---------------|-------|------------------------------|--------|--------|-----------------------------|---|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| iShares U.S. Aggregate Bond Index Fund Class K (WFBIX) ^{1,14} | Intermediate Core Bond | 07/02/93 | 2.92% | 6.30% | 8.91% | 5.31% | 4.24% | 3.70% | 0.06% | 0.05% | 04/30/21 | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: Bloomberg Barclays US Aggregate Bond TR USD | | | 2.90% | 6.14% | 8.74% | 5.32% | 4.30% | 3.82% | | | | |
| PGIM Total Return Bond Fund -Class R6 (PTRQX) ^{7,14} | Intermediate Core-Plus Bond | 12/27/10 | 6.78% | 3.75% | 6.90% | 5.50% | 5.08% | 5.25% | 0.41% | 0.39% | 02/28/21 | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: Bloomberg Barclays US Aggregate Bond TR USD | | | 2.90% | 6.14% | 8.74% | 5.32% | 4.30% | 3.95% | | | | |

| Multi Asset - Variable Annuity | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|---|------------------------------|----------------------|---------------|--------|------------------------------|--------|--------|-----------------------------|---|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| CREF Social Choice Account (R2) (QCSCPX) ^{1,2,3,4} | Allocation-50% to 70% Equity | 04/24/15 03/01/90 | 13.98% | -1.07% | 5.95% | 6.83% | 6.61% | 8.35% | 0.32% | 0.32% | - | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. Pln Svcs Credit: 0.075%/quarterly |
| Benchmark: CREF Social Choice Account Composite Index | | | 13.00% | -0.76% | 5.78% | 6.86% | 6.58% | 8.69% | | | | |
| Benchmark: Morningstar Moderate Target Risk TR USD | | | 12.73% | -2.35% | 3.70% | 5.89% | 6.00% | 7.76% | | | | |

| Multi Asset - Mutual Fund | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|---|----------------------|----------------|---------------|--------|------------------------------|--------|--------|-----------------------------|---|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| Vanguard Institutional Target Retirement 2015 Fund Institutional Shares (VITVX) ^{7,15} | Target-Date 2015 | 06/26/15 | 8.92% | 0.87% | 5.60% | 5.86% | 5.53% | 5.35% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: Bloomberg Barclays US Aggregate Bond TR USD | | | 2.90% | 6.14% | 8.74% | 5.32% | 4.30% | 4.42% | | | | |
| Vanguard Institutional Target Retirement 2020 Fund Institutional Shares (VITWX) ^{7,15} | Target-Date 2020 | 06/26/15 | 11.43% | -0.54% | 5.15% | 6.15% | 6.01% | 5.78% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |
| Vanguard Institutional Target Retirement 2025 Fund Institutional Shares (VRIVX) ^{7,15} | Target-Date 2025 | 06/26/15 | 13.19% | -1.46% | 4.85% | 6.38% | 6.34% | 6.06% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |
| Vanguard Institutional Target Retirement 2030 Fund Institutional Shares (VITWX) ^{7,15} | Target-Date 2030 | 06/26/15 | 14.57% | -2.35% | 4.43% | 6.45% | 6.50% | 6.18% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |
| Vanguard Institutional Target Retirement 2035 Fund Institutional Shares (VITFX) ^{7,15} | Target-Date 2035 | 06/26/15 | 15.92% | -3.22% | 3.98% | 6.50% | 6.66% | 6.30% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |
| Vanguard Institutional Target Retirement 2040 Fund Institutional Shares (VIRSX) ^{7,15} | Target-Date 2040 | 06/26/15 | 17.25% | -4.13% | 3.46% | 6.51% | 6.78% | 6.38% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |

| Multi Asset - Mutual Fund | Morningstar Category | Inception Date | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|---|------------------------|----------------|---------------|--------|------------------------------|--------|--------|-----------------------------|---|-------|-----------------------|--|
| | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| Vanguard Institutional Target Retirement 2045 Fund Institutional Shares (VITLX) ^{7,15} | Target-Date 2045 | 06/26/15 | 18.65% | -4.97% | 2.99% | 6.45% | 6.82% | 6.42% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |
| Vanguard Institutional Target Retirement 2050 Fund Institutional Shares (VTRLX) ^{7,15} | Target-Date 2050 | 06/26/15 | 18.61% | -4.96% | 3.00% | 6.44% | 6.82% | 6.41% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |
| Vanguard Institutional Target Retirement 2055 Fund Institutional Shares (VIVLX) ^{7,15} | Target-Date 2055 | 06/26/15 | 18.63% | -4.94% | 2.98% | 6.46% | 6.83% | 6.43% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |
| Vanguard Institutional Target Retirement 2060 Fund Institutional Shares (VILVX) ^{7,15} | Target-Date 2060+ | 06/26/15 | 18.66% | -4.93% | 3.04% | 6.45% | 6.82% | 6.42% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | 10.03% | 10.04% | 9.61% | | | | |
| Vanguard Institutional Target Retirement 2065 Fund Institutional Shares (VSXFX) ^{7,15} | Target-Date 2060+ | 07/12/17 | 18.64% | -5.10% | 2.82% | - | - | 6.27% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: MSCI US Broad Market GR USD | | | 22.27% | -3.47% | 6.56% | - | - | 9.84% | | | | |
| Vanguard Institutional Target Retirement Income Fund Institutional Shares (VITRX) ^{7,15} | Target-Date Retirement | 06/26/15 | 7.95% | 1.60% | 5.87% | 5.47% | 5.00% | 4.92% | 0.09% | 0.09% | - | Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: Bloomberg Barclays US Aggregate Bond TR USD | | | 2.90% | 6.14% | 8.74% | 5.32% | 4.30% | 4.42% | | | | |

| Money Market - Variable Annuity | Morningstar Category | Inception Date | 7-Day Yield** | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|--|----------------------|----------------------|---------------|---------------|-------|------------------------------|--------|--------|--------------------------|--|-------|-----------------------|-----------------------------------|
| | | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| CREF Money Market Account (R2) (QCMMPX) ^{1,2,3,4,16,17} | Money Market-Taxable | 04/24/15 04/01/88 | 0.00% | 0.05% | 0.35% | 1.24% | 1.31% | 0.83% | 0.41% | 0.29% | 0.29% | - | Pln Svcs Credit: 0.075%/quarterly |
| Benchmark: iMoneyNet Money Fund Averages-All Government | | | | 0.02% | 0.27% | 1.06% | 1.26% | 0.80% | 0.41% | | | | |

You could lose money by investing in the CREF Money Market Account. Because the accumulation unit value of the Account will fluctuate, the value of your investment may increase or decrease. An investment in the Account is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Account's sponsor has no legal obligation to provide support to the Account, and you should not expect that the sponsor will provide financial support to the Account at any time.

**The current yield more closely reflects the earnings of this investment choice.

| Money Market - Mutual Fund | Morningstar Category | Inception Date | 7-Day Yield** | Total Returns | | Average Annual Total Returns | | | | Total Annual Operating Expenses (%/Per \$1000) | | Fee Waiver Expiration | Shareholder Fees & Restrictions* |
|---|----------------------|----------------|---------------|---------------|-------|------------------------------|--------|--------|--------------------------|--|-------|-----------------------|----------------------------------|
| | | | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year/ Since Inception | Gross | Net | | |
| Vanguard Federal Money Market Fund Investor Shares (VMFXX) ^{7,11,18} | Money Market-Taxable | 07/13/81 | 0.12% | 0.08% | 0.42% | 1.39% | 1.62% | 1.10% | 0.55% | 0.11% | 0.11% | - | Pln Svcs Fee: 0.125%/quarterly |
| Benchmark: FTSE Treasury Bill 3 Month USD | | | | 0.14% | 0.52% | 1.56% | 1.72% | 1.15% | 0.61% | | | | |

You could lose money by investing in a money market fund. Although a money market fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. A money market fund's sponsor has no legal obligation to provide support to a money market fund, and you should not expect that the sponsor will provide financial support to a money market fund at any time.

**The current yield more closely reflects the earnings of this investment choice.

| Guaranteed - Fixed Annuity | Inception Date | Total Returns | | Average Annual Total Returns | | | | Current Rates | | |
|--|----------------|---------------|-------|------------------------------|--------|--------|---------|-----------------|-------|-------------------------|
| | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year | Since Inception | Rate | Guaranteed Minimum Rate |
| TIAA Traditional Annuity - Group Supplemental Retirement Annuity ^{19,20,21} | - | 0.77% | 1.54% | 3.12% | 3.13% | 3.20% | 3.28% | - | 3.00% | 3.00% |

Additional Information:

The current rate shown applies to premiums remitted during the month of July 2020 and will be credited through 2/28/2021. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The guaranteed minimum interest rate is 3.00%, and is effective while the funds remain in the contract. The account also offers the opportunity for additional amounts in excess of the guaranteed minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. For Group Supplemental Retirement Annuity (GSRA) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals and transfers are available from the TIAA Traditional account without any restrictions or charges. After termination of employment additional income options may be available including income for life, income for a fixed period of time, and IRS required minimum distribution payments.

| Guaranteed - Fixed Annuity | Inception Date | Total Returns | | Average Annual Total Returns | | | | Current Rates | | |
|---|----------------|---------------|-------|------------------------------|--------|--------|---------|-----------------|-------|-------------------------|
| | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year | Since Inception | Rate | Guaranteed Minimum Rate |
| TIAA Traditional Annuity - Retirement Annuity ^{19,20,21} | - | 0.93% | 1.85% | 3.74% | 3.79% | 3.87% | 3.97% | - | 3.00% | 3.00% |

Additional Information:

The current rate shown applies to premiums remitted during the month of July 2020 and will be credited through 2/28/2021. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The guaranteed minimum interest rate is 3.00%, and is effective while the funds remain in the contract. The account also offers the opportunity for additional amounts in excess of the guaranteed minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you. For Retirement Annuity (RA) contracts, lump-sum withdrawals are not available from the TIAA Traditional account. Subject to the terms of your plan, all withdrawals and transfers from the account must be paid in ten annual installments. After termination of employment additional income options may be available including income for life, interest-only payments, and IRS required minimum distribution payments.

| Guaranteed - Fixed Annuity | Inception Date | Total Returns | | Average Annual Total Returns | | | | Current Rates | | |
|---|----------------|---------------|-------|------------------------------|--------|--------|---------|-----------------|-------|-------------------------|
| | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year | Since Inception | Rate | Guaranteed Minimum Rate |
| TIAA Traditional Annuity - Retirement Choice Plus ^{19,20,21} | 06/01/06 | 0.81% | 1.61% | 3.25% | 3.29% | 3.39% | 3.45% | 3.66% | 2.00% | 1.00% |

Additional Information:

An annual plan servicing credit of 0.025% is credited on a quarterly basis.

The current rate shown applies to premiums remitted during the month of July 2020 and will be credited through 2/28/2021. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The current guaranteed minimum interest rate is 1.00% for premiums remitted in March 2020 through February 2021, and is effective through February 2021. The account also offers the opportunity for additional amounts in excess of the minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. For Retirement Choice Plus (RCP) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals and transfers are available from the TIAA Traditional account without any surrender charges. For certain RCP contracts, any transfer from TIAA Traditional to a competing fund must first be directed to a non-competing fund for a period of 90 days. After 90 days, transfers may be made to a competing fund, including transferring back to TIAA Traditional. (TIAA Contract form IGRSP-02-ACC/TIAA Certificate form IGRSP-CERT3-ACC). After termination of employment additional income options may be available including income for life and IRS required minimum distribution payments. The Contractholder (typically your employer as the sponsor of your plan) has the right to remove TIAA Traditional as a plan option. If elected, the contract's entire TIAA Traditional accumulation will be paid out in 60 monthly installments, without any surrender charge and will be reinvested at the direction of your plan sponsor. Please refer to your contract certificate for additional details.

| Guaranteed - Fixed Annuity | Inception Date | Total Returns | | Average Annual Total Returns | | | | Current Rates | | |
|--|----------------|---------------|-------|------------------------------|--------|--------|---------|-----------------|-------|-------------------------|
| | | 3 Month | YTD | 1 Year | 3 Year | 5 Year | 10 Year | Since Inception | Rate | Guaranteed Minimum Rate |
| TIAA Traditional Annuity - Supplemental Retirement Annuity ^{19,20,21} | - | 0.77% | 1.54% | 3.12% | 3.13% | 3.20% | 3.28% | - | 3.00% | 3.00% |

Additional Information:

The current rate shown applies to premiums remitted during the month of July 2020 and will be credited through 2/28/2021. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The guaranteed minimum interest rate is 3.00%, and is effective while the funds remain in the contract. The account also offers the opportunity for additional amounts in excess of the guaranteed minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. For Supplemental Retirement Annuity (SRA) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals and transfers are available from the TIAA Traditional account without any restrictions or charges. After termination of employment additional income options may be available including income for life, income for a fixed period of time, and IRS required minimum distribution payments.

A Note About Risk

Equity risk refers to the risk of loss due to the market price of shares falling. Equity funds and variable annuity accounts generally carry a higher degree of risk than fixed income funds and accounts. Fixed income funds and variable annuity accounts are not guaranteed and are subject to interest rate, inflation and credit risks.

Variable annuity accounts that invest in real estate securities are subject to various risks, including fluctuation in property values, higher expenses or lower income than expected, and potential environmental problems and liability.

Guaranteed investments offer a guaranteed rate of return but such guarantees are subject to the claims-paying ability of the issuing insurance company.

More detailed information on risks applicable to a particular investment option can be found in the prospectus or other product literature.

Fees and Expenses

*Some Plans may allocate plan costs to participants to offset the cost of recordkeeping and other plan services. When the Plan allocates these costs at the investment-level there may be a plan services fee or credit displayed in the "Shareholder fees & restrictions" column. If the costs are allocated at the plan-level (regardless of investment) it is not displayed on the Quarterly Investment Update.

Fee and expense information for the variable return investment options include the Total Annual Operating Expenses expressed as a percentage and a dollar amount based upon a \$1,000 accumulation both as net (after) and gross (before) of expenses. Total Annual Operating Expenses is a measure of what it costs to operate an investment, expressed as a percentage of its assets, as a dollar amount or in basis points. These are costs the investor pays through a reduction in the investment's rate of return. Expense information shown is based on the most recent information available, but may not reflect all updates and may differ slightly from the prospectus due to rounding. Please consult the most recent prospectus or offering document for more detailed information.

For more information on the impact of fees and expenses associated with your plan, please visit TIAA.org/fees. Fees are only one of many factors to consider when making an investment decision.

About the Benchmark

A benchmark provides an investor with a point of reference to evaluate an investment's performance. One common type of benchmark used to compare investment performance is called an index. Indexes are unmanaged portfolios of securities designed to track the performance of a particular segment of the market. For example, a large cap stock fund or account will usually be compared to an index that tracks a portfolio of large-cap stocks. Conversely, a bond fund or account is typically compared to an index that tracks a portfolio of bonds that is comparable to the fund or account's portfolio in terms of credit quality, maturity and liquidity. Each mutual fund or account shown in the table includes performance information for an index that the advisor determined provides a fair comparison of the fund or account's investment performance. Indexes are for comparison purposes only. You cannot invest directly in any index. Index returns do not reflect a deduction for fees or expenses.

Data Providers

Unless otherwise noted, data on nonproprietary investment products, including performance, Morningstar Category and expenses, is provided by Morningstar, Inc. All other data provided by Teachers Insurance and Annuity Association of America - College Retirement Equities Fund. Benchmark performance shown across proprietary and nonproprietary funds/accounts is provided by TIAA with the exception of Since Inception periods calculated using a nonproprietary fund's inception date. TIAA reserves the rights to all proprietary data herein, and is not responsible for any damages or losses arising from any use of this information.

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The Morningstar Category classifies a fund based on its investment style as measured by underlying portfolio holdings (portfolio statistics and compositions over the past three years). If the fund is new

and has no portfolio, Morningstar estimates where it will fall before assigning a more permanent category. When necessary, Morningstar may change a category assignment based on current information.

Important Information

1 When more than one inception date is shown, the performance displayed for periods prior to the investment's inception date is hypothetical. The second inception date is that of the fund/account to which such performance is based. Please refer to the investment's performance disclosure for more details.

2 Total annual expense deductions, which include investment advisory, administrative, and distribution (12b-1) expenses, and mortality and expense risk charges, are estimated each year based on projected expense and asset levels. Differences between actual expenses and the estimate are adjusted quarterly and are reflected in current investment results. Historically, adjustments have been small.

3 The Account's total annual expense deduction appears in the Account's prospectus, and may be different than that shown herein due to rounding. Please refer to the prospectus for further details.

4 The performance shown for Class R2 that is prior to its inception date is based on the performance of the Account's Class R1. The performance for these periods has not been restated to reflect the lower expenses of Class R2. If these lower expenses had been reflected, the performance of Class R2 for these periods would have been higher.

5 Securities of foreign issuers may lose value because of erratic market conditions, economic and political instability or fluctuations in currency exchange rates, which may be magnified in emerging markets.

6 Due to their relatively high valuations which are generally a function of expected earnings growth, growth stocks will be more volatile than value stocks and such earnings growth may not occur or be sustained.

7 Accumulations in funds not managed by TIAA may be subject to administrative charges. These charges are subject to change. Please review current documents related to your plan.

8 Value stocks may perform differently from the market as a whole and may be undervalued by the market for a long period of time.

9 Securities of smaller companies may be more volatile than those of larger ones, and they are also often less liquid than those of larger companies because there is a limited market for them.

10 The index shown is for comparative purposes only, and may not match other websites or publications.

11 On or about July 22, 2019, Investor class shares will be converted to Admiral class shares.

12 Funds that focus their investments in a specific sector (such as health care or technology) are more vulnerable to developments that affect those industries or sectors than more broadly diversified funds.

13 The total annual expense deduction, which includes investment management, administration, and distribution expenses, mortality and expense risk charges, and the liquidity guarantee, is estimated each year based on projected expense and asset levels. Differences between actual expenses and the estimate are adjusted quarterly and are reflected in current investment results. Historically, adjustments have been small.

14 The net expense ratio reflects a contractual arrangement that has the effect of reducing or limiting the fund's expenses. Without such an arrangement, currently or in the past, returns would have been lower. The arrangement will remain in effect until terminated. Please see the prospectus for details.

15 As Target Retirement Date Funds are actively managed, their asset allocations are subject to change and may vary from those indicated. They invest in many underlying funds and are exposed to the risks of different areas of the market. Please note that, as with all mutual funds, the principal value of a Target Retirement Date Fund is not guaranteed. The higher a fund's allocation to stocks, the greater the risk. After the target date has been reached, some of these funds may be merged into a fund with a more stable asset allocation. In addition to the fund level expenses these funds are also subject to the expenses of their underlying investments. Please consult the prospectus for more complete information.

16 Between July 16, 2009 and March 7, 2017, TIAA withheld ("waived") a portion of the 12b-1 distribution and/or administrative expenses for each class of the CREF Money Market Account when a class's yield was less than zero. Without this waiver, the total returns of the Money Market Account would have been lower. For a period of three years after the date an amount was waived, it was eligible for recoupment by TIAA, under certain conditions. All eligible expenses were recouped by July 2018 for Class R3, September 2018 for Class R2 and June 2019 for Class R1. TIAA has agreed to withhold ("waive") a portion of the Rule 12b-1 distribution and/or administrative expenses for each class of the CREF Money Market Account (the "Account") when a class's yield is less than zero. Without this waiver, the total returns of each class of the Account would be lower, and could be negative. TIAA may, for a period of three years after the date an amount was waived, recover from the Account a portion of the amounts waived at such time as the class's daily yield would be positive absent the effect of the waiver and, in such event, the amount of recovery on any day will be approximately 25% of the class's yield (net of all other expenses) on that day. This limited waiver may be terminated at any time and, in any event, will extend only through December 31, 2020.

17 iMoneyNet reports yields as of the last Tuesday of the month. Yields for the iMoneyNet Money Fund Report Averages-All Taxable and the annuity account(s) that track this industry average are calculated based on this date.

18 Closed to new investors.

19 The TIAA Traditional Annuity guarantees principal and a specified interest rate (based on TIAA's claims paying ability). It also offers the potential for greater growth through additional amounts, which may be declared on a year-by-year basis by the TIAA Board of Trustees. These additional amounts, when declared, remain in effect for the "declaration year" which begins each March 1. Additional amounts are not guaranteed. For more up to date information please visit your employer's microsite or TIAA.org. TIAA Traditional is a guaranteed insurance contract and not an investment for federal securities law purposes.

20 Accumulations are credited with interest based on when contributions and transfers are received, and your performance will reflect your pattern of contributions. The returns shown in the table reasonably represent what an individual making level monthly premiums would have historically earned over the time periods. Returns for different time periods are calculated in two steps: monthly performance returns are calculated from an accumulation created by a series of level monthly premiums over the prior 10 years (or the inception date of the product if later), and those monthly returns are linked together to determine historical performance for each of the return periods shown.

21 The Current Rates, Minimum Guaranteed Rates and Fees (if applicable) shown for guaranteed annuities are the rates in effect as of the first day of the month following quarter end. Depending upon the contract, these may apply to new money only or to both new money and existing accumulations. See your annuity contract or certificate for details.



BUILT TO PERFORM.

CREATED TO SERVE.

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Mutual funds are offered through your plan sponsor's retirement plan, which is recordkept by TIAA. Funds are offered at that day's net asset value (NAV), and the performance is displayed accordingly. Performance at NAV does not reflect sales charges, which are waived through your retirement plan. If included, the sales charges would have reduced the performance as quoted.

Before making your investment choices and completing your enrollment form, you should consider the investment objectives, risks, charges and expenses carefully. Please call 877-518-9161 for paper copies of the product and fund prospectuses that contain this and other information. Please read the prospectuses carefully before investing.

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