

CREF Accounts, TIAA-CREF Funds - All Share Classes, and TIAA-CREF Life Funds 3 & 5 Year Annualized Tracking Error & Information Ratio for the period ending 1/31/18

Definitions:

Excess Return (ER): a measure of an investment's annualized return in excess of a benchmark.

Tracking Error (TE): a measure of the volatility of excess returns relative to a benchmark.

Information Ratio (IR): a measure of excess annualized return per unit of risk.

Disclosures:

CREF Bond Market account

Risk statistics that require a 3, 5 or 10-year performance history are calculated using the Account's Class R1 share class for periods prior to the Account's Class R3 inception date. The Account's Class R1 began operations on March 1, 1990. Neither the performance nor the risk statistics for these periods have been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance and risk statistic values of Class R3 for these periods would have been higher.

CREF Equity Index Account

Risk statistics that require a 3, 5 or 10-year performance history are calculated using the Account's Class R1 share class for periods prior to the Account's Class R3 inception date. The Account's Class R1 began operations on April 29, 1994. Neither the performance nor the risk statistics for these periods have been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance and risk statistic values of Class R3 for these periods would have been higher.

CREF Global Equities

Risk statistics that require a 3, 5 or 10-year performance history are calculated using the Account's Class R1 share class for periods prior to the Account's Class R3 inception date. The Account's Class R1 began operations on May 1, 1992. Neither the performance nor the risk statistics for these periods have been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance and risk statistic values of Class R3 for these periods would have been higher.

CREF Growth Account

Risk statistics that require a 3, 5 or 10-year performance history are calculated using the Account's Class R1 share class for periods prior to the Account's Class R3 inception date. The Account's Class R1 began operations on April 29, 1994. Neither the performance nor the risk statistics for these periods have been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance and risk statistic values of Class R3 for these periods would have been higher.

CREF Inflation-Linked Bond Account

Risk statistics that require a 3, 5 or 10-year performance history are calculated using the Account's Class R1 share class for periods prior to the Account's Class R3 inception date. The Account's Class R1 began operations on May 1, 1997. Neither the performance nor the risk statistics for these periods have been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance and risk statistic values of Class R3 for these periods would have been higher.

CREF Money Market

Risk statistics that require a 3, 5 or 10-year performance history are calculated using the Account's Class R1 share class for periods prior to the Account's Class R3 inception date. The Account's Class R1 began operations on April 1, 1998. Neither the performance nor the risk statistics for these periods have been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance and risk statistic values of Class R3 for these periods would have been higher.

CREF Social Choice Account

Risk statistics that require a 3, 5 or 10-year performance history are calculated using the Account's Class R1 share class for periods prior to the Account's Class R3 inception date. The Account's Class R1 began operations on March 1, 1990. Neither the performance nor the risk statistics for these periods have been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance and risk statistic values of Class R3 for these periods would have been higher.

CREF Stock Account

Risk statistics that require a 3, 5 or 10-year performance history are calculated using the Account's Class R1 share class for periods prior to the Account's Class R3 inception date. The Account's Class R1 began operations on July 31, 1952. Neither the performance nor the risk statistics for these periods have been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance and risk statistic values of Class R3 for these periods would have been higher.

This material is not intended to be a recommendation or investment advice, does not constitute a solicitation to buy or sell securities, and is not provided in a fiduciary capacity. The information provided does not take into account the specific objectives or circumstances of any particular investor, or suggest any specific course of action. Financial professionals should independently evaluate the risks associated with products or services and exercise independent judgment with respect to their clients.

The ratios provided here do not replace performance data, but are supplemental data intended to help investors analyze performance.

Performance data for each product showing the standardized 1, 5, 10-year and since inception returns can be found here:
<http://www.tiaa.org/performance/retirement/index.html>.

The performance data quoted represents past performance and is no guarantee of future results. Your returns and the principal value of your investments will fluctuate so that your shares [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 above. For performance current to the most recent month-end, visit the TIAA Website at www.tiaa.org, or call 877 518-9161.

You should consider the investment objectives, risks, charges and expenses carefully before investing. Please call 877-518-9161 or log on to www.tiaa.org for product and fund prospectuses that contain this and other information. Please read the prospectuses carefully before investing.

Investment, 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.

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CREF Accounts, TIAA-CREF Funds - All Share Classes, and TIAA-CREF Life Funds 3 & 5 Year Annualized Tracking Error & Information Ratio for the period ending 1/31/2018

All statistics were calculated using net of fees monthly returns using our Funds' and Accounts' official benchmarks.

| Fund/Account | | Benchmark | 3 YR Tracking Error (BP) | 3 YR Information Ratio (%) | 5 YR Tracking Error (BP) | 5 YR Information Ratio (%) | |
|-------------------------------|-------|------------------------------------|---|----------------------------------|--------------------------------|----------------------------------|-------|
| CREF Accounts R1 Class | | | | | | | |
| 8093 | 17364 | CREF Bond Market Account | Bloomberg Barclays Aggregate Bond Index | 39 | 0.48 | 41 | 0.05 |
| 8001 | 8060 | CREF Equity Index Account | Russell 3000 Index | 5 | NA | 5 | NA |
| 8003 | 8075 | CREF Global Equities Account | MSCI World Index | 140 | -0.17 | 135 | -0.01 |
| 8000 | 8168 | CREF Growth Account | Russell 1000 Growth Index | 170 | -0.44 | 162 | -0.07 |
| 8004 | 22351 | CREF Inflation-Linked Bond Account | Bloomberg Barclays TIPS 1-10 Year Index | 42 | -1.67 | 36 | -1.44 |
| 8023 | 8081 | CREF Social Choice Account | SCA Composite Index | 57 | -0.81 | 58 | -0.88 |
| 8002 | 14517 | CREF Stock Account | CREF Composite Index | 68 | -0.79 | 65 | -0.68 |
| CREF Accounts R2 Class | | | | | | | |
| 21684 | 17364 | CREF Bond Market Account | Barclays Aggregate Bond Index | 39 | 1.13 | 41 | 0.42 |
| 21688 | 8060 | CREF Equity Index Account | Russell 3000 Index | 3 | NA | 3 | NA |
| 21692 | 8075 | CREF Global Equities Account | MSCI World Index | 140 | 0.01 | 135 | 0.10 |
| 21697 | 8168 | CREF Growth Account | Russell 1000 Growth Index | 170 | -0.29 | 162 | 0.03 |
| 21705 | 22351 | CREF Inflation-Linked Bond Account | Barclays TIPS 1-10 Year Index | 41 | -1.09 | 35 | -1.05 |
| 21713 | 8081 | CREF Social Choice Account | SCA Composite Index | 58 | -0.36 | 59 | -0.62 |
| 21717 | 14517 | CREF Stock Account | CREF Composite Index | 68 | -0.42 | 65 | -0.45 |
| CREF Accounts R3 Class | | | | | | | |
| 21686 | 17364 | CREF Bond Market Account | Barclays Aggregate Bond Index | 39 | 1.35 | 42 | 0.54 |
| 21690 | 8060 | CREF Equity Index Account | Russell 3000 Index | 3 | NA | 3 | NA |
| 21694 | 8075 | CREF Global Equities Account | MSCI World Index | 140 | 0.07 | 135 | 0.14 |
| 21704 | 8168 | CREF Growth Account | Russell 1000 Growth Index | 170 | -0.24 | 162 | 0.06 |
| 21707 | 22351 | CREF Inflation-Linked Bond Account | Barclays TIPS 1-10 Year Index | 41 | -0.89 | 35 | -0.91 |
| 21715 | 8081 | CREF Social Choice Account | SCA Composite Index | 58 | -0.21 | 59 | -0.52 |
| 21719 | 14517 | CREF Stock Account | CREF Composite Index | 68 | -0.29 | 65 | -0.37 |

CREF Accounts, TIAA-CREF Funds - All Share Classes, and TIAA-CREF Life Funds 3 & 5 Year Annualized Tracking Error & Information Ratio for the period ending 1/31/2018

All statistics were calculated using net of fees monthly returns using our Funds' and Accounts' official benchmarks.

| Fund/Account | | Benchmark | 3 YR Tracking Error (BP) | 3 YR Information Ratio (%) | 5 YR Tracking Error (BP) | 5 YR Information Ratio (%) | |
|-------------------------------------|-------|--|---|----------------------------------|--------------------------------|----------------------------------|-------|
| Retirement Share Class Funds | | | | | | | |
| 15981 | 17364 | Bond Fund | Bloomberg Barclays Aggregate Bond Index | 62 | 1.18 | 70 | 0.64 |
| 18252 | 17364 | Bond Index Fund | Bloomberg Barclays Aggregate Bond Index | 26 | NA | 22 | NA |
| 15975 | 17364 | Bond Plus Fund | Bloomberg Barclays Aggregate Bond Index | 110 | 0.89 | 99 | 0.64 |
| 21536 | 17378 | Emerging Markets Debt Fund | JP Morgan EMBI Global Diversified Index | 199 | 0.63 | NA | NA |
| 18675 | 15615 | Emerging Markets Equity Fund | MSCI Emerging Markets Index | 450 | 0.16 | 419 | -0.11 |
| 18679 | 15615 | Emerging Markets Equity Index Fund | MSCI Emerging Markets Index | 138 | NA | 127 | NA |
| 15993 | 8060 | Equity Index Fund | Russell 3000 Index | 8 | NA | 8 | NA |
| 19213 | 19201 | Global Natural Resources Fund | MSCI AC World Index Commodity Producers Sec. Cap. Index | 959 | -0.41 | 760 | -0.36 |
| 15024 | 8065 | Growth & Income Fund | S&P 500 Index | 225 | 0.02 | 238 | -0.03 |
| 15952 | 17377 | High-Yield Fund | ICE BofA ML BB-B Cash Pay Issuer Constrained Index | 120 | -0.30 | 102 | -0.54 |
| 15954 | 22352 | Inflation-Linked Bond Fund | Bloomberg Barclays TIPS 1-10 Year Index | 38 | -1.43 | 34 | -1.35 |
| 15026 | 8067 | International Equity Fund | MSCI EAFE Index | 437 | 0.51 | 462 | 0.28 |
| 8153 | 8067 | International Equity Index Fund | MSCI EAFE Index | 191 | NA | 179 | NA |
| 20053 | 19231 | International Opportunities Fund | MSCI All Country World Index ex-USA | 485 | 0.49 | NA | NA |
| 15959 | 8055 | Large-Cap Growth Fund | Russell 1000 Growth Index | 352 | -0.02 | 349 | 0.10 |
| 8137 | 8055 | Large-Cap Growth Index Fund | Russell 1000 Growth Index | 6 | NA | 6 | NA |
| 8124 | 8054 | Large-Cap Value Fund | Russell 1000 Value Index | 264 | -0.11 | 229 | -0.32 |
| 8139 | 8054 | Large-Cap Value Index Fund | Russell 1000 Value Index | 8 | NA | 8 | NA |
| 16522 | 17785 | Lifecycle 2010 Fund | Lifecycle 2010 Fund Composite Index | 81 | 0.67 | 86 | 0.10 |
| 16523 | 17786 | Lifecycle 2015 Fund | Lifecycle 2015 Fund Composite Index | 89 | 0.59 | 95 | 0.08 |
| 16524 | 17787 | Lifecycle 2020 Fund | Lifecycle 2020 Fund Composite Index | 95 | 0.57 | 100 | 0.05 |
| 16525 | 17788 | Lifecycle 2025 Fund | Lifecycle 2025 Fund Composite Index | 105 | 0.50 | 111 | 0.02 |
| 16526 | 17789 | Lifecycle 2030 Fund | Lifecycle 2030 Fund Composite Index | 120 | 0.43 | 123 | -0.02 |
| 16527 | 17790 | Lifecycle 2035 Fund | Lifecycle 2035 Fund Composite Index | 123 | 0.40 | 130 | -0.06 |
| 16528 | 17791 | Lifecycle 2040 Fund | Lifecycle 2040 Fund Composite Index | 135 | 0.33 | 140 | -0.07 |
| 17275 | 17814 | Lifecycle 2045 Fund | Lifecycle 2045 Fund Composite Index | 140 | 0.32 | 142 | -0.10 |
| 17295 | 17807 | Lifecycle 2050 Fund | Lifecycle 2050 Fund Composite Index | 139 | 0.29 | 142 | -0.11 |
| 18860 | 18834 | Lifecycle 2055 Fund | Lifecycle 2055 Fund Composite Index | 142 | 0.28 | 142 | -0.11 |
| 21459 | 21461 | Lifecycle 2060 Fund | Lifecycle 2060 Fund Composite Index | 140 | 0.25 | NA | NA |
| 17317 | 17804 | Lifecycle Retirement Income Fund | Lifecycle Retirement Income Fund Composite Index | 79 | 0.66 | 81 | 0.16 |
| 18143 | 18048 | Lifecycle Index 2010 Fund | Lifecycle Index 2010 Composite Benchmark | 31 | NA | 27 | NA |
| 18146 | 18049 | Lifecycle Index 2015 Fund | Lifecycle Index 2015 Composite Benchmark | 32 | NA | 30 | NA |
| 18149 | 18053 | Lifecycle Index 2020 Fund | Lifecycle Index 2020 Composite Benchmark | 36 | NA | 31 | NA |
| 18152 | 18054 | Lifecycle Index 2025 Fund | Lifecycle Index 2025 Composite Benchmark | 38 | NA | 35 | NA |
| 18155 | 18055 | Lifecycle Index 2030 Fund | Lifecycle Index 2030 Composite Benchmark | 47 | NA | 43 | NA |
| 18158 | 18056 | Lifecycle Index 2035 Fund | Lifecycle Index 2035 Composite Benchmark | 47 | NA | 42 | NA |
| 18161 | 18057 | Lifecycle Index 2040 Fund | Lifecycle Index 2040 Composite Benchmark | 51 | NA | 44 | NA |
| 18164 | 18058 | Lifecycle Index 2045 Fund | Lifecycle Index 2045 Composite Benchmark | 54 | NA | 48 | NA |
| 18167 | 18059 | Lifecycle Index 2050 Fund | Lifecycle Index 2050 Composite Benchmark | 50 | NA | 45 | NA |
| 18878 | 18863 | Lifecycle Index 2055 Fund | Lifecycle Index 2055 Composite Benchmark | 54 | NA | 48 | NA |
| 21437 | 21440 | Lifecycle Index 2060 Fund | Lifecycle Index 2060 Composite Benchmark | 48 | NA | NA | NA |
| 18170 | 18060 | Lifecycle Index Retirement Income Fund | Lifecycle Index Retirement Income Composite Benchmark | 26 | NA | 24 | NA |
| 19334 | 19291 | Lifestyle Aggressive Growth Fund | Lifestyle Aggressive Composite Benchmark | 166 | 0.11 | 168 | -0.06 |
| 19419 | 19386 | Lifestyle Conservative Fund | Lifestyle Conservative Composite Benchmark | 88 | 0.62 | 89 | 0.24 |
| 19375 | 19340 | Lifestyle Growth Fund | Lifestyle Growth Composite Benchmark | 144 | 0.29 | 142 | 0.04 |
| 19285 | 19246 | Lifestyle Income Fund | Lifestyle Income Composite Benchmark | 65 | 0.86 | 67 | 0.33 |
| 19461 | 19382 | Lifestyle Moderate Fund | Lifestyle Moderate Composite Benchmark | 123 | 0.44 | 120 | 0.15 |
| 15963 | 15073 | Managed Allocation Fund | Managed Allocation Composite Index | 110 | 0.56 | 108 | 0.18 |
| 8127 | 8062 | Mid-Cap Growth Fund | Russell Midcap Growth Index | 251 | -0.75 | 248 | -0.77 |
| 8130 | 8064 | Mid-Cap Value Fund | Russell Midcap Value Index | 202 | -0.74 | 186 | -0.76 |
| 8158 | 15091 | Real Estate Securities Fund | FTSE NAREIT All Equity REITs Index | 212 | 0.16 | 203 | 0.02 |
| 8135 | 8065 | S&P 500 Index Fund | S&P 500 Index | 6 | NA | 7 | NA |
| 15967 | 21135 | Short-Term Bond Fund | Bloomberg Barclays Short (1-3 Yr) Govt Credit Index | 30 | 1.64 | 38 | 0.67 |
| 8147 | 8056 | Small-Cap Blend Index Fund | Russell 2000 Index | 9 | NA | 10 | NA |
| 8133 | 8056 | Small-Cap Equity Fund | Russell 2000 Index | 212 | 0.43 | 212 | 0.51 |
| 19818 | 17364 | Social Choice Bond Fund | Bloomberg Barclays Aggregate Bond Index | 43 | 0.88 | 57 | 1.58 |
| 15028 | 8164 | Social Choice Equity Fund | Russell 3000 Index | 98 | -0.83 | 107 | -0.92 |

CREF Accounts, TIAA-CREF Funds - All Share Classes, and TIAA-CREF Life Funds 3 & 5 Year Annualized Tracking Error & Information Ratio for the period ending 1/31/2018

All statistics were calculated using net of fees monthly returns using our Funds' and Accounts' official benchmarks.

| Fund/Account | | Benchmark | 3 YR Tracking Error (BP) | 3 YR Information Ratio (%) | 5 YR Tracking Error (BP) | 5 YR Information Ratio (%) | |
|--|-------|--|---|----------------------------------|--------------------------------|----------------------------------|-------|
| Institutional Share Class Funds | | | | | | | |
| 15955 | 17364 | Bond Fund | Bloomberg Barclays Aggregate Bond Index | 61 | 1.59 | 69 | 1.02 |
| 18250 | 17364 | Bond Index Fund | Bloomberg Barclays Aggregate Bond Index | 31 | NA | 27 | NA |
| 15984 | 17364 | Bond Plus Fund | Bloomberg Barclays Aggregate Bond Index | 105 | 1.14 | 99 | 0.87 |
| 21534 | 17378 | Emerging Markets Debt Fund | JP Morgan EMBI Global Diversified Index | 200 | 0.72 | NA | NA |
| 18673 | 15615 | Emerging Markets Equity Fund | MSCI Emerging Markets Index | 451 | 0.21 | 420 | -0.05 |
| 18677 | 15615 | Emerging Markets Equity Index Fund | MSCI Emerging Markets Index | 140 | NA | 127 | NA |
| 17339 | 8067 | Enhanced Intl Equity Index Fund | MSCI EAFE Index | 269 | NA | 253 | NA |
| 17335 | 8055 | Enhanced Large-Cap Growth Index Fund | Russell 1000 Growth Index | 96 | NA | 99 | NA |
| 17337 | 8054 | Enhanced Large-Cap Value Index Fund | Russell 1000 Value Index | 110 | NA | 114 | NA |
| 15991 | 8060 | Equity Index Fund | Russell 3000 Index | 8 | NA | 9 | NA |
| 19211 | 19201 | Global Natural Resources Fund | MSCI AC World Index Commodity Producers Sec. Cap. Index | 958 | -0.39 | 759 | -0.33 |
| 15023 | 8065 | Growth & Income Fund | S&P 500 Index | 226 | 0.14 | 237 | 0.08 |
| 15978 | 17377 | High-Yield Fund | ICE BofA ML BB-B Cash Pay Issuer Constrained Index | 114 | -0.13 | 99 | -0.32 |
| 8160 | 22352 | Inflation-Linked Bond Fund | Bloomberg Barclays TIPS 1-10 Year Index | 34 | -0.80 | 33 | -0.58 |
| 15025 | 8067 | International Equity Fund | MSCI EAFE Index | 435 | 0.57 | 460 | 0.34 |
| 8152 | 8067 | International Equity Index Fund | MSCI EAFE Index | 191 | NA | 179 | NA |
| 20051 | 19231 | International Opportunities Fund | MSCI All Country World Index ex-USA | 483 | 0.55 | NA | NA |
| 15957 | 8055 | Large-Cap Growth Fund | Russell 1000 Growth Index | 353 | 0.07 | 350 | 0.18 |
| 8136 | 8055 | Large-Cap Growth Index Fund | Russell 1000 Growth Index | 7 | NA | 7 | NA |
| 8122 | 8054 | Large-Cap Value Fund | Russell 1000 Value Index | 267 | -0.01 | 231 | -0.21 |
| 8138 | 8054 | Large-Cap Value Index Fund | Russell 1000 Value Index | 8 | NA | 9 | NA |
| 16515 | 17785 | Lifecycle 2010 Fund | Lifecycle 2010 Fund Composite Index | 81 | 0.94 | 84 | 0.41 |
| 16516 | 17786 | Lifecycle 2015 Fund | Lifecycle 2015 Fund Composite Index | 84 | 0.90 | 90 | 0.35 |
| 16517 | 17787 | Lifecycle 2020 Fund | Lifecycle 2020 Fund Composite Index | 95 | 0.80 | 100 | 0.29 |
| 16518 | 17788 | Lifecycle 2025 Fund | Lifecycle 2025 Fund Composite Index | 104 | 0.74 | 111 | 0.25 |
| 16519 | 17789 | Lifecycle 2030 Fund | Lifecycle 2030 Fund Composite Index | 114 | 0.68 | 120 | 0.20 |
| 16520 | 17790 | Lifecycle 2035 Fund | Lifecycle 2035 Fund Composite Index | 122 | 0.61 | 130 | 0.15 |
| 16521 | 17791 | Lifecycle 2040 Fund | Lifecycle 2040 Fund Composite Index | 138 | 0.52 | 142 | 0.10 |
| 17274 | 17814 | Lifecycle 2045 Fund | Lifecycle 2045 Fund Composite Index | 140 | 0.50 | 141 | 0.09 |
| 17294 | 17807 | Lifecycle 2050 Fund | Lifecycle 2050 Fund Composite Index | 139 | 0.50 | 142 | 0.08 |
| 18861 | 18834 | Lifecycle 2055 Fund | Lifecycle 2055 Fund Composite Index | 141 | 0.44 | 144 | 0.07 |
| 21458 | 21461 | Lifecycle 2060 Fund | Lifecycle 2060 Fund Composite Index | 141 | 0.42 | NA | NA |
| 17315 | 17804 | Lifecycle Retirement Income Fund | Lifecycle Retirement Income Fund Composite Index | 77 | 1.02 | 80 | 0.48 |
| 18142 | 18048 | Lifecycle Index 2010 Fund | Lifecycle Index 2010 Composite Benchmark | 32 | NA | 29 | NA |
| 18145 | 18049 | Lifecycle Index 2015 Fund | Lifecycle Index 2015 Composite Benchmark | 34 | NA | 30 | NA |
| 18148 | 18053 | Lifecycle Index 2020 Fund | Lifecycle Index 2020 Composite Benchmark | 37 | NA | 33 | NA |
| 18151 | 18054 | Lifecycle Index 2025 Fund | Lifecycle Index 2025 Composite Benchmark | 38 | NA | 35 | NA |
| 18154 | 18055 | Lifecycle Index 2030 Fund | Lifecycle Index 2030 Composite Benchmark | 42 | NA | 39 | NA |
| 18157 | 18056 | Lifecycle Index 2035 Fund | Lifecycle Index 2035 Composite Benchmark | 46 | NA | 40 | NA |
| 18160 | 18057 | Lifecycle Index 2040 Fund | Lifecycle Index 2040 Composite Benchmark | 49 | NA | 45 | NA |
| 18163 | 18058 | Lifecycle Index 2045 Fund | Lifecycle Index 2045 Composite Benchmark | 49 | NA | 43 | NA |
| 18166 | 18059 | Lifecycle Index 2050 Fund | Lifecycle Index 2050 Composite Benchmark | 54 | NA | 47 | NA |
| 18879 | 18863 | Lifecycle Index 2055 Fund | Lifecycle Index 2055 Composite Benchmark | 55 | NA | 47 | NA |
| 21436 | 21440 | Lifecycle Index 2060 Fund | Lifecycle Index 2060 Composite Benchmark | 54 | NA | NA | NA |
| 18169 | 18060 | Lifecycle Index Retirement Income Fund | Lifecycle Index Retirement Income Composite Benchmark | 31 | NA | 29 | NA |
| 19332 | 19291 | Lifestyle Aggressive Growth Fund | Lifestyle Aggressive Composite Benchmark | 169 | 0.26 | 169 | 0.10 |
| 19408 | 19386 | Lifestyle Conservative Fund | Lifestyle Conservative Composite Benchmark | 90 | 0.90 | 90 | 0.50 |
| 19373 | 19340 | Lifestyle Growth Fund | Lifestyle Growth Composite Benchmark | 144 | 0.45 | 140 | 0.22 |
| 19283 | 19246 | Lifestyle Income Fund | Lifestyle Income Composite Benchmark | 65 | 1.28 | 67 | 0.74 |
| 19458 | 19382 | Lifestyle Moderate Fund | Lifestyle Moderate Composite Benchmark | 121 | 0.64 | 119 | 0.36 |
| 15961 | 15073 | Managed Allocation Fund | Managed Allocation Composite Index | 103 | 0.86 | 106 | 0.45 |
| 8125 | 8062 | Mid-Cap Growth Fund | Russell Midcap Growth Index | 247 | -0.66 | 246 | -0.67 |
| 8128 | 8064 | Mid-Cap Value Fund | Russell Midcap Value Index | 201 | -0.62 | 185 | -0.62 |
| 8156 | 15091 | Real Estate Securities Fund | FTSE NAREIT All Equity REITs Index | 215 | 0.28 | 206 | 0.14 |
| 8134 | 8065 | S&P 500 Index Fund | S&P 500 Index | 6 | NA | 7 | NA |
| 15965 | 21135 | Short-Term Bond Fund | Bloomberg Barclays Short (1-3 Yr) Govt Credit Index | 31 | 2.39 | 40 | 1.26 |
| 8146 | 8056 | Small-Cap Blend Index Fund | Russell 2000 Index | 9 | NA | 9 | NA |
| 8131 | 8056 | Small-Cap Equity Fund | Russell 2000 Index | 210 | 0.55 | 209 | 0.63 |
| 19816 | 17364 | Social Choice Bond Fund | Bloomberg Barclays Aggregate Bond Index | 41 | 1.54 | 55 | 2.08 |
| 15027 | 8164 | Social Choice Equity Fund | Russell 3000 Index | 95 | -0.59 | 105 | -0.69 |
| 15971 | 17372 | Tax-Exempt Bond Fund | Bloomberg Barclays 10 Year Municipal Bond Index | 87 | -0.92 | 89 | -1.29 |

**CREF Accounts, TIAA-CREF Funds - All Share Classes, and TIAA-CREF Life Funds
3 & 5 Year Annualized Tracking Error & Information Ratio for the period ending
1/31/2018**

All statistics were calculated using net of fees monthly returns using our Funds' and Accounts' official benchmarks.

| Fund/Account | Benchmark | 3 YR Tracking Error (BP) | 3 YR Information Ratio (%) | 5 YR Tracking Error (BP) | 5 YR Information Ratio (%) |
|--------------|-----------|--------------------------------|----------------------------------|--------------------------------|----------------------------------|
|--------------|-----------|--------------------------------|----------------------------------|--------------------------------|----------------------------------|

CREF Accounts, TIAA-CREF Funds - All Share Classes, and TIAA-CREF Life Funds 3 & 5 Year Annualized Tracking Error & Information Ratio for the period ending 1/31/2018

All statistics were calculated using net of fees monthly returns using our Funds' and Accounts' official benchmarks.

| Fund/Account | | Benchmark | 3 YR Tracking Error (BP) | 3 YR Information Ratio (%) | 5 YR Tracking Error (BP) | 5 YR Information Ratio (%) | |
|---------------------------------|-------|------------------------------------|---|----------------------------------|--------------------------------|----------------------------------|-------|
| Retail Share Class Funds | | | | | | | |
| 15969 | 17364 | Bond Fund | Bloomberg Barclays Aggregate Bond Index | 60 | 1.13 | 71 | 0.56 |
| 18251 | 17364 | Bond Index Fund | Bloomberg Barclays Aggregate Bond Index | 26 | NA | 23 | NA |
| 15974 | 17364 | Bond Plus Fund | Bloomberg Barclays Aggregate Bond Index | 104 | 0.85 | 98 | 0.55 |
| 21537 | 17378 | Emerging Markets Debt Fund | JP Morgan EMBI Global Diversified Index | 197 | 0.58 | NA | NA |
| 18674 | 15615 | Emerging Markets Equity Fund | MSCI Emerging Markets Index | 458 | 0.13 | 425 | -0.14 |
| 18678 | 15615 | Emerging Markets Equity Index Fund | MSCI Emerging Markets Index | 145 | NA | 134 | NA |
| 15992 | 8060 | Equity Index Fund | Russell 3000 Index | 8 | NA | 8 | NA |
| 19212 | 19201 | Global Natural Resources Fund | MSCI AC World Index Commodity Producers Sec. Cap. Index | 964 | -0.43 | 764 | -0.38 |
| 15985 | 8065 | Growth & Income Fund | S&P 500 Index | 229 | 0.01 | 239 | -0.05 |
| 15951 | 17377 | High-Yield Fund | ICE BofA ML BB-B Cash Pay Issuer Constrained Index | 115 | -0.33 | 100 | -0.57 |
| 8161 | 22352 | Inflation-Linked Bond Fund | Bloomberg Barclays TIPS 1-10 Year Index | 36 | -1.62 | 34 | -1.46 |
| 15986 | 8067 | International Equity Fund | MSCI EAFE Index | 433 | 0.50 | 459 | 0.26 |
| 20052 | 19231 | International Opportunities Fund | MSCI All Country World Index ex-USA | 491 | 0.45 | NA | NA |
| 15958 | 8055 | Large-Cap Growth Fund | Russell 1000 Growth Index | 352 | -0.02 | 350 | 0.08 |
| 8123 | 8054 | Large-Cap Value Fund | Russell 1000 Value Index | 264 | -0.13 | 230 | -0.35 |
| 17316 | 17804 | Lifecycle Retirement Income Fund | Retirement Income Fund Composite Index | 78 | 0.66 | 80 | 0.16 |
| 19333 | 19291 | Lifestyle Aggressive Growth Fund | Lifestyle Aggressive Composite Benchmark | 172 | 0.07 | 170 | -0.10 |
| 19418 | 19386 | Lifestyle Conservative Fund | Lifestyle Conservative Composite Benchmark | 89 | 0.59 | 89 | 0.20 |
| 19374 | 19340 | Lifestyle Growth Fund | Lifestyle Growth Composite Benchmark | 141 | 0.25 | 140 | 0.00 |
| 19284 | 19246 | Lifestyle Income Fund | Lifestyle Income Composite Benchmark | 61 | 0.87 | 64 | 0.33 |
| 19460 | 19382 | Lifestyle Moderate Fund | Lifestyle Moderate Composite Benchmark | 122 | 0.43 | 120 | 0.13 |
| 15962 | 15073 | Managed Allocation Fund | Managed Allocation Composite Index | 106 | 0.60 | 107 | 0.19 |
| 8126 | 8062 | Mid-Cap Growth Fund | Russell Midcap Growth Index | 250 | -0.77 | 248 | -0.79 |
| 8129 | 8064 | Mid-Cap Value Fund | Russell Midcap Value Index | 203 | -0.77 | 186 | -0.79 |
| 8157 | 15091 | Real Estate Securities Fund | FTSE NAREIT All Equity REITs Index | 215 | 0.13 | 205 | -0.02 |
| 15966 | 21135 | Short-Term Bond Fund | Bloomberg Barclays Short (1-3 Yr) Govt Credit Index | 38 | 1.13 | 41 | 0.46 |
| 8132 | 8056 | Small-Cap Equity Fund | Russell 2000 Index | 209 | 0.41 | 209 | 0.48 |
| 19817 | 17364 | Social Choice Bond Fund | Bloomberg Barclays Aggregate Bond Index | 39 | 0.90 | 53 | 1.57 |
| 15982 | 8164 | Social Choice Equity Fund | Russell 3000 Index | 97 | -0.85 | 106 | -0.96 |
| 15972 | 17372 | Tax-Exempt Bond Fund | Bloomberg Barclays 10 Year Municipal Bond Index | 90 | -1.16 | 90 | -1.55 |

CREF Accounts, TIAA-CREF Funds - All Share Classes, and TIAA-CREF Life Funds

3 & 5 Year Annualized Tracking Error & Information Ratio for the period ending 1/31/2018

All statistics were calculated using net of fees monthly returns using our Funds' and Accounts' official benchmarks.

| Fund/Account | Benchmark | 3 YR Tracking Error (BP) | 3 YR Information Ratio (%) | 5 YR Tracking Error (BP) | 5 YR Information Ratio (%) | |
|----------------------------------|--|---|----------------------------|--------------------------|----------------------------|-------|
| Premier Share Class Funds | | | | | | |
| 18246 17364 | Bond Fund | Bloomberg Barclays Aggregate Bond Index | 62 | 1.36 | 72 | 0.77 |
| 18253 17364 | Bond Index Fund | Bloomberg Barclays Aggregate Bond Index | 30 | NA | 27 | NA |
| 18248 17364 | Bond Plus Fund | Bloomberg Barclays Aggregate Bond Index | 106 | 0.99 | 99 | 0.73 |
| 21535 17378 | Emerging Markets Debt Fund | JP Morgan EMBI Global Diversified Index | 201 | 0.63 | NA | NA |
| 18676 15615 | Emerging Markets Equity Fund | MSCI Emerging Markets Index | 456 | 0.18 | 423 | -0.09 |
| 18680 15615 | Emerging Markets Equity Index Fund | MSCI Emerging Markets Index | 140 | NA | 130 | NA |
| 18241 8060 | Equity Index Fund | Russell 3000 Index | 8 | NA | 9 | NA |
| 19214 19201 | Global Natural Resources Fund | MSCI AC World Index Commodity Producers Sec. Cap. Index | 955 | -0.41 | 757 | -0.35 |
| 18233 8065 | Growth & Income Fund | S&P 500 Index | 229 | 0.08 | 238 | 0.02 |
| 18247 17377 | High-Yield Fund | ICE BofA ML BB-B Cash Pay Issuer Constrained Index | 123 | -0.21 | 105 | -0.43 |
| 18242 22352 | Inflation-Linked Bond Fund | Bloomberg Barclays TIPS 1-10 Year Index | 33 | -1.22 | 31 | -1.10 |
| 18235 8067 | International Equity Fund | MSCI EAFE Index | 435 | 0.54 | 460 | 0.30 |
| 18240 8067 | International Equity Index Fund | MSCI EAFE Index | 192 | NA | 179 | NA |
| 20054 19231 | International Opportunities Fund | MSCI All Country World Index ex-USA | 488 | 0.51 | NA | NA |
| 18244 8055 | Large-Cap Growth Fund | Russell 1000 Growth Index | 355 | 0.03 | 351 | 0.14 |
| 18236 8054 | Large-Cap Value Fund | Russell 1000 Value Index | 264 | -0.07 | 230 | -0.28 |
| 18264 17785 | Lifecycle 2010 Fund | Lifecycle 2010 Fund Composite Index | 79 | 0.79 | 85 | 0.24 |
| 18265 17786 | Lifecycle 2015 Fund | Lifecycle 2015 Fund Composite Index | 86 | 0.71 | 90 | 0.17 |
| 18266 17787 | Lifecycle 2020 Fund | Lifecycle 2020 Fund Composite Index | 95 | 0.67 | 101 | 0.15 |
| 18267 17788 | Lifecycle 2025 Fund | Lifecycle 2025 Fund Composite Index | 102 | 0.61 | 110 | 0.10 |
| 18268 17789 | Lifecycle 2030 Fund | Lifecycle 2030 Fund Composite Index | 118 | 0.55 | 123 | 0.08 |
| 18269 17790 | Lifecycle 2035 Fund | Lifecycle 2035 Fund Composite Index | 121 | 0.50 | 129 | 0.03 |
| 18270 17791 | Lifecycle 2040 Fund | Lifecycle 2040 Fund Composite Index | 138 | 0.42 | 142 | 0.00 |
| 18271 17814 | Lifecycle 2045 Fund | Lifecycle 2045 Fund Composite Index | 140 | 0.37 | 143 | -0.02 |
| 18272 17807 | Lifecycle 2050 Fund | Lifecycle 2050 Fund Composite Index | 139 | 0.38 | 140 | -0.03 |
| 18862 18834 | Lifecycle 2055 Fund | Lifecycle 2055 Fund Composite Index | 138 | 0.35 | 142 | -0.04 |
| 21460 21461 | Lifecycle 2060 Fund | Lifecycle 2060 Fund Composite Index | 140 | 0.31 | NA | NA |
| 18273 17804 | Lifecycle Retirement Income Fund | Lifecycle Retirement Income Fund Composite Index | 75 | 0.82 | 78 | 0.28 |
| 18144 18048 | Lifecycle Index 2010 Fund | Lifecycle Index 2010 Composite Benchmark | 33 | NA | 31 | NA |
| 18147 18049 | Lifecycle Index 2015 Fund | Lifecycle Index 2015 Composite Benchmark | 29 | NA | 28 | NA |
| 18150 18053 | Lifecycle Index 2020 Fund | Lifecycle Index 2020 Composite Benchmark | 35 | NA | 32 | NA |
| 18153 18054 | Lifecycle Index 2025 Fund | Lifecycle Index 2025 Composite Benchmark | 37 | NA | 35 | NA |
| 18156 18055 | Lifecycle Index 2030 Fund | Lifecycle Index 2030 Composite Benchmark | 42 | NA | 37 | NA |
| 18159 18056 | Lifecycle Index 2035 Fund | Lifecycle Index 2035 Composite Benchmark | 47 | NA | 41 | NA |
| 18162 18057 | Lifecycle Index 2040 Fund | Lifecycle Index 2040 Composite Benchmark | 49 | NA | 43 | NA |
| 18165 18058 | Lifecycle Index 2045 Fund | Lifecycle Index 2045 Composite Benchmark | 50 | NA | 44 | NA |
| 18168 18059 | Lifecycle Index 2050 Fund | Lifecycle Index 2050 Composite Benchmark | 55 | NA | 47 | NA |
| 18880 18863 | Lifecycle Index 2055 Fund | Lifecycle Index 2055 Composite Benchmark | 47 | NA | 42 | NA |
| 21439 21440 | Lifecycle Index 2060 Fund | Lifecycle Index 2060 Composite Benchmark | 52 | NA | NA | NA |
| 18171 18060 | Lifecycle Index Retirement Income Fund | Lifecycle Index Retirement Income Composite Benchmark | 30 | NA | 26 | NA |
| 19335 19291 | Lifestyle Aggressive Growth Fund | Lifestyle Aggressive Composite Benchmark | 170 | 0.18 | 169 | 0.01 |
| 19420 19386 | Lifestyle Conservative Fund | Lifestyle Conservative Composite Benchmark | 87 | 0.75 | 88 | 0.35 |
| 19376 19340 | Lifestyle Growth Fund | Lifestyle Growth Composite Benchmark | 143 | 0.34 | 142 | 0.09 |
| 19286 19246 | Lifestyle Income Fund | Lifestyle Income Composite Benchmark | 64 | 1.04 | 67 | 0.49 |
| 19462 19382 | Lifestyle Moderate Fund | Lifestyle Moderate Composite Benchmark | 120 | 0.52 | 118 | 0.24 |
| 18237 8062 | Mid-Cap Growth Fund | Russell Midcap Growth Index | 250 | -0.71 | 248 | -0.73 |
| 18238 8064 | Mid-Cap Value Fund | Russell Midcap Value Index | 202 | -0.69 | 185 | -0.71 |
| 18239 15091 | Real Estate Securities Fund | FTSE NAREIT All Equity REITs Index | 211 | 0.21 | 203 | 0.07 |
| 18249 21135 | Short-Term Bond Fund | Bloomberg Barclays Short (1-3 Yr) Govt Credit Index | 31 | 1.91 | 40 | 0.89 |
| 18243 8056 | Small-Cap Equity Fund | Russell 2000 Index | 210 | 0.48 | 209 | 0.56 |
| 19819 17364 | Social Choice Bond Fund | Bloomberg Barclays Aggregate Bond Index | 42 | 1.14 | 56 | 1.79 |
| 18234 8164 | Social Choice Equity Fund | Russell 3000 Index | 97 | -0.74 | 104 | -0.84 |
| 20829 | Balanced Fund | Life Balance Composite Benchmark | | | | |

CREF Accounts, TIAA-CREF Funds - All Share Classes, and TIAA-CREF Life Funds 3 & 5 Year Annualized Tracking Error & Information Ratio for the period ending 1/31/2018

All statistics were calculated using net of fees monthly returns using our Funds' and Accounts' official benchmarks.

| Fund/Account | | Benchmark | 3 YR Tracking Error (BP) | 3 YR Information Ratio (%) | 5 YR Tracking Error (BP) | 5 YR Information Ratio (%) | |
|-------------------|-------|-----------------------------|---|----------------------------------|--------------------------------|----------------------------------|-------|
| LIFE Funds | | | | | | | |
| 15093 | 17364 | Bond Fund | Bloomberg Barclays Aggregate Bond Index | 75 | 1.19 | 72 | 0.71 |
| 8019 | 8065 | Growth & Income Fund | S&P 500 Index | 226 | 0.11 | 236 | 0.05 |
| 8018 | 8168 | Growth Equity Fund | Russell 1000 Growth Index | 351 | 0.08 | 352 | 0.19 |
| 8020 | 8067 | International Equity Fund | MSCI EAFE Index | 432 | 0.63 | 458 | 0.39 |
| 8120 | 8054 | Large-Cap Value Fund | Russell 1000 Value Index | 268 | -0.08 | 233 | -0.27 |
| 8154 | 15091 | Real Estate Securities Fund | FTSE NAREIT All Equity REITs Index | 216 | 0.19 | 208 | 0.13 |
| 8121 | 8056 | Small-Cap Equity Fund | Russell 2000 Index | 205 | 0.49 | 207 | 0.57 |
| 8021 | 8164 | Social Choice Equity Fund | Russell 3000 Index | 104 | -0.64 | 111 | -0.80 |
| 8015 | 8060 | Stock Index Fund | Russell 3000 Index | 4 | NA | 4 | NA |
| 20862 | 20829 | Balanced Fund | Life Balance Composite Benchmark | 92 | 0.60 | NA | NA |

Definitions:

Excess Return (ER)*: a measure of an investment's return in excess of a benchmark.

ER = Portfolio Return - Benchmark Return

Tracking Error (TE)*: a measure of the volatility of excess returns relative to a benchmark.

TE = Standard Deviation of Excess Return

$$\text{TE (Sample)} = \sqrt{\frac{n \sum_{i=1}^n e_i^2 - (\sum_{i=1}^n e_i)^2}{n(n-1)}} * \text{sqrt (frequency)}$$

Information Ratio (IR)*: a measure of excess return per units of risk.

Arithmetic IR* (*methodology is used by TIAA Risk Management*):

underlying Portfolio and Benchmark return information is generated from geometrically linked daily returns. The monthly excess return observations are then arithmetically averaged and then annualized to generate the Excess Return component. Information Ratio is derived by taking the ER component and dividing it by the Tracking Error.

$$\text{IR Arithmetic} = \frac{\text{Avg (Port Monthly Ret - Bmk Monthly Ret)}}{\text{TE (Sample)}} * 12$$

* ER, TE, and IR are annualized