Summer 2012

TIAA-CREF Asset Management

TIAA Traditional Annuity: Adding safety and stability to retirement portfolios

Overview

Launched with the founding of TIAA in 1918, the TIAA Traditional Annuity is the pioneering retirement offering on which the company built its asset and participant base. Since 1918, a variety of new retirement products have been introduced in the marketplace, many by TIAA-CREF. Yet the TIAA Traditional Annuity remains a centerpiece of participants' retirement portfolios, providing an attractive combination of account features and an excellent complement to TIAA-CREF's equity, fixed-income, money market and real estate investment offerings. Today, more participant dollars are allocated to the TIAA Traditional Annuity than to any other TIAA-CREF product.[1]

Learn about the TIAA Traditional Annuity

The TIAA Traditional Annuity is a guaranteed fixed annuity offered to participants in employer-sponsored retirement plans and Individual Retirement Accounts (IRAs) through a contract with TIAA, an insurance company. Participants who choose to allocate a portion of their retirement savings to the TIAA Traditional Annuity make contributions that purchase a specific amount of lifetime income based on the contractual rate schedule in effect at the time the premium is paid.

The participant's principal, plus a specified rate of interest, are guaranteed by TIAA's claims-paying ability. The TIAA Traditional Annuity also provides an opportunity for participants to receive additional amounts, which the TIAA Board of Trustees may declare on a year-by-year basis. These additional amounts, when declared, remain in effect for the 12-month "declaration year" that begins each March 1 for accumulating annuities and January 1 for lifetime payout annuities; they are not guaranteed for future years.

To increase understanding of how the TIAA Traditional Annuity works and what makes it uniquely attractive as part of a diversified retirement strategy, this paper:

- Describes the features of the TIAA Traditional Annuity
- Examines the composition of the investments held in TIAA's General Account, which are the source of the earnings, financial strength and stability that back the guarantees and additional amounts under the TIAA Traditional Annuity.[2]

TIAA CREF Financial Services

How the TIAA Traditional Annuity is offered

The TIAA Traditional Annuity is offered through a variety of contracts, including Retirement Annuities (RAs), Group Retirement Annuities (GRAs), Supplemental Retirement Annuities (SRAs), Group Supplemental Retirement Annuities (GSRAs), Retirement Choice (RC) and Retirement Choice PLUS (RCP) annuities, IRAs and Keoghs.[3] The type of contract through which a participant allocates to the TIAA Traditional Annuity determines the applicability of certain account features, such as the guaranteed minimum interest rate, additional amounts paid, the degree of liquidity of the participant's account and the options for receiving income upon retirement. This paper focuses primarily on RA contracts, although other types of contracts are referenced where appropriate.

Following the summary of the product features of the TIAA Traditional Annuity is a discussion on valuation.

Key features of TIAA Traditional Annuity returns

There are four characteristics of return that are key to the TIAA Traditional Annuity:

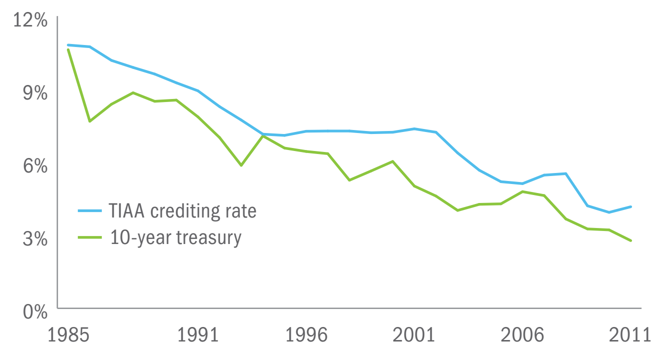
Guaranteed principal and minimum interest rate
The TIAA Traditional Annuity guarantees principal and pays a guaranteed minimum interest rate during the accumulation phase—generally 3%, but between 1% and 3% for some contracts. (Because TIAA's contractual rates guarantee lifetime benefits that will not be paid out until many years in the future, these rates are based on conservative assumptions that are intended to make the annuities fully self-supporting.) These guarantees of principal and minimum interest rates ensure that each participant's accumulation is protected from loss and will always increase in value.[4]

Opportunity to receive additional amounts
As described earlier, additional amounts above the guaranteed minimum interest rate may be declared at the discretion of the TIAA Board of Trustees on a year-by-year basis. Such additional amounts have been declared every year since 1948. When declared, additional amounts remain in effect for the "declaration year" that begins each March 1 and are not guaranteed for future years. Together, the guaranteed minimum and additional amounts make up the "crediting rate" in the accumulation phase of the account. Crediting rates applied to the TIAA Traditional Annuity have generally been among the highest in the industry.

Exhibit 1 shows the crediting rate for RA and GRA contracts for the years 1985 through 2010. Over that period, the crediting rate averaged 7.39% and ranged from a high of 10.81% in 1985 to a low of 3.94% in 2010. The declining rate in more recent years is reflective of general interest rate trends. Due to the minimum guarantee, there have been no years in which the crediting rate fell below 3%.

Exhibit 1

Trends in key rates spanning three decades TIAA Traditional crediting rates and 10-year U.S. Treasury rates 1985–2011



The TIAA Traditional Annuity crediting rate represents the average rate applied to all accumulations in force under RA and GRA contracts each year. The 10-year U.S. Treasury rate represents the annual average of each of the 12 monthly spot rates. Sources: TIAA: Bureau of Labor Statistics.

The graph above is not intended to compare the TIAA Traditional Annuity to 10-year U.S. Treasury securities. Rather, the graph merely shows the TIAA Traditional Annuity's crediting rate alongside general long-term interest rates (for which the 10-year U.S. Treasury yield is a common barometer) during the time period shown. It is important to note, however, that there are significant differences between a guaranteed insurance product and U.S. Treasuries, and each has its place with regard to addressing an individual investor's needs. Therefore, an investor should not decide between the two based on return alone. There are a number of other factors that must be considered, including the following: (1) different charges and expenses applicable to each, including the mortality and expense charges carried by annuities; (2) liquidity issues (Treasuries are fully liquid while TIAA Traditional is generally not); (3) the manner in which each is taxed, including capital gains implications; (4) the manner in which interest accrues, including the impact of the vintage system on TIAA Traditional returns; and (5) the fact that TIAA Traditional amounts are not ensured for future years and may be discontinued, which could significantly diminish the return potential when compared to U.S. Treasuries. The TIAA Traditional guarantee is backed by the claims-paying ability of Teachers Insurance and Annuity Association (TIAA), and the U.S. Treasuries are backed by the full faith and credit of the U.S. Treasury. TIAA Traditional is a guaranteed annuity contract.

Because the yields available on bonds and other fixed income investments tend to change over time, TIAA groups the premium dollars it receives over defined time periods into vintages—typically composed of one or more contiguous calendar months—for the purpose of determining the crediting rate for the applicable declaration year during the accumulation phase. The crediting rate for each vintage is determined, in part, by the net investment earnings rate of the TIAA assets supporting that vintage, minus a charge for administrative expenses and an amount set aside for contingency reserves.

The net investment earnings rate associated with each vintage reflects both the yields at which premiums are invested and the rates at which subsequent cash flows are reinvested. This approach enables TIAA to distribute excess earnings to participants on a more equitable basis, so that each generation will ultimately receive benefit payments that reflect, in part, the prevailing interest-rate environment at the time the crediting rates were applied.

Guaranteed minimum interest rate and potential for additional amounts during the payout phase

The third notable feature related to the TIAA Traditional Annuity Account's returns is that each participant dollar applied to the account purchases a guaranteed amount of lifetime annuity income, paid to participants when they annuitize. Under most TIAA Traditional Annuity contracts, the minimum guaranteed interest rate during the payout phase is 2.5%. As in the accumulation phase, this guaranteed minimum rate may be supplemented by additional amounts declared by the TIAA Board of Trustees on a year-by-year basis.

These additional amounts reflect earnings in excess of the guaranteed minimum rate, as well as a payout of unneeded contingency reserves. As an insurance company, TIAA is required to maintain contingency reserves to ensure that it will be able to fulfill its contractual obligations to policyholders, even in the face of unexpected adverse circumstances. However, to the extent that these reserves prove to be unneeded, they are gradually distributed to participants in the form of additional annuity income during the payout phase. (It is important to note that if TIAA were a typical stock insurance company, unneeded reserves could be used for the benefit of its stockholders rather than its participants.)

Long time horizon to enable competitive returns

The fourth important characteristic related to the TIAA Traditional Annuity's return is the account's long time horizon. Under RA contracts, participants may only make withdrawals in the form of a life annuity or in 10 installments, with the first installment paid immediately so that the "10-year" withdrawal period actually occurs over a period of nine years and one day.[2]

This restricted liquidity provides TIAA with the flexibility to invest its General Account assets, which back up the Traditional Annuity, in a wider range of investments than would be possible with liabilities having a shorter time horizon. This flexibility, combined with deep investment expertise and the economies of scale offered by a large asset base, has helped generate steady returns for the TIAA General Account portfolio—contributing to the portfolio's growth and to the financial strength and stability that back the TIAA Traditional Annuity's guaranteed returns.

Financial strength and liquidity restrictions provide safety, stability

The safety and stability of the TIAA Traditional Annuity is made possible, first and foremost, by TIAA's financial strength—its ability to pay its claims and deliver on the guarantees it makes to its participants.

TIAA is one of only three insurance groups in the United States to hold the highest ratings currently awarded from all four leading independent insurance industry ratings agencies.[5] These agencies monitor multiple aspects of life insurance company business, including the quality of the investment portfolio, the soundness and competitiveness of the overall business, and the structure and risks associated with individual products. In addition, each agency monitors capital adequacy using its own capital model or standards.

TIAA's high ratings do not mean that its General Account investments are restricted to securities that carry equally high ratings. Rather, the quality of the investment portfolio is evaluated in relation to the other characteristics of TIAA's business and against TIAA's capital reserves. In effect, the rating process aims to ensure that investment and other risks are balanced by the capital TIAA has available to absorb investment volatility or losses and its ongoing ability to maintain capital at appropriate levels.

Also supporting the safety and stability of the TIAA Traditional Annuity is the restricted liquidity of the account under RA and certain other contracts. As described earlier, this helps facilitate TIAA's ability to invest a portion of its General Account portfolio in long-term assets that have the potential to contribute to the General Account's growth and to the financial strength and stability that back the TIAA Traditional Annuity's guaranteed returns.

The TIAA General Account: a sound, diversified portfolio

A look at TIAA's General Account investments sheds light on the strength and stability that back the TIAA Traditional Annuity's guarantees. Although participants in the TIAA Traditional Annuity do not invest in the General Account portfolio, the investment performance of that portfolio supports the annuity's minimum guaranteed returns, additional amounts and payout obligations.

As an insurance company, TIAA is governed by New York State insurance regulations that limit the General Account's exposure to higher-risk asset types. In particular, insurance regulations limit the proportion of investments that can be allocated to certain asset classes. Specifically, regulations limit holdings of below-investment-grade bonds to 10% of the portfolio; emerging market debt to 4%; U.S. common stock and other non-preferred equity securities to 20%; and U.S. real estate to 20%.

Regulations also require TIAA to maintain certain minimum amounts of capital. These capital requirements vary by the amount and type of risk. For instance, emerging market bonds, equities and real estate require significantly higher capital than investment grade bonds.

In general, regulatory constraints and capital requirements dictate that life insurance company general accounts focus largely on investment-grade fixed-income assets. The challenge is to construct a portfolio that optimizes return within these constraints.

Key advantages

TIAA has three valuable competitive advantages that enable it to meet this challenge:

1. TIAA is a capital-rich insurance company
2. Although TIAA Traditional Annuity participants do not invest in the TIAA General Account portfolio, the characteristics of the annuity help make it possible for the General Account to invest in long-duration and less-liquid alternative assets, including higher-yielding alternatives to the "plain vanilla" corporate bonds that have historically dominated life insurance company portfolios.
3. The TIAA General Account has invested $25 billion per year on average since 2000, making TIAA one of the world's largest institutional investors. The size and constancy of these investment flows provide TIAA with the asset base and stability to take advantage of investment opportunities in asset classes that might not be available to investors with smaller or less constant flows. In addition, the breadth and stability of TIAA's asset base have allowed it to nurture in-house expertise and accumulate experience in these asset types. And because of its scale, TIAA can execute transactions more efficiently and cost-effectively, an advantage that smaller investors do not enjoy.

In combination, these three advantages have made it possible to build TIAA's General Account portfolio using a variety of asset types.

The role of the TIAA Traditional Annuity in a diversified retirement portfolio

The key attributes of the TIAA General Account—its financial strength, highly diversified portfolio, long-term investment time horizon and economies of scale—make it possible for the TIAA Traditional Annuity to offer important advantages to its contract holders:

- Guaranteed principal and a guaranteed rate of interest, plus possible additional amounts, which can result in highly competitive crediting rates in the accumulation phase.
- A guaranteed rate, plus the potential for additional amounts paid from excess capital reserves, during the payout phase.

In addition to being a source of safety and stability in its own right, the TIAA Traditional Annuity can help offset the effects of market fluctuations on other assets held in a diversified retirement portfolio. Classified as a "guaranteed" asset, TIAA Traditional Annuity returns historically have had little or no correlation to returns from other types of assets, such as stocks and bonds. (Correlation measures the relationship among returns of different asset classes, showing how similarly or differently they tend to perform.) This low or negative correlation can help minimize volatility and improve overall portfolio returns over time, making the TIAA Traditional Annuity a valuable component of a well-diversified retirement portfolio.

How fair value pricing of the TIAA Traditional Annuity is determined

FASB Accounting Standards Codification (ASC) 962-325-35-5 regulations require that defined contribution pension plans report all investments at fair value. The TIAA Traditional Annuity is reported at contract value and segregated into non-benefit and fully benefit responsive categories. (Contract value is the relevant measurement attribute for that portion of net assets that are considered to be fully benefit responsive.)

The contract value of the TIAA Traditional Annuity equals the accumulated cash contributions, interest credited to the plan's contracts, and transfers, if any, less any withdrawals and transfers, if any.

Based on its assumptions and analysis, TIAA has concluded that contract value approximates market value. To aid plan sponsors in beginning an analysis to determine fair value of the TIAA Traditional Annuity, TIAA has developed two methodologies. It is important to note that changes in assumptions as well as plan demographics could result in a different conclusion.

The following is a discussion regarding the fair value of the TIAA Traditional Annuity, according to the principles in ASC 820. The conclusion is that the fair value of such contracts does not differ significantly from the contract value. This conclusion is supported by the following two lines of reasoning:

1. Theoretical transfer of an asset owned by a pension plan, and
2. A quantitative model based on assumptions of future interest rates and related discounted cash flows.

Theoretical Transfer of an asset owned by a pension plan
According to ASC 820, fair value is generally defined as the exchange price based on an exit (not entry) of the position in its principal market. Because of the nature of the TIAA Traditional Annuity contract during the accumulation stage, there is no principal market where such contracts are traded. Therefore, we considered a theoretical marketplace where the TIAA Traditional Annuity contract's fair value would be considered to be approximately the same value as the contract value based on the following considerations:

- Contributions represent current transactions between willing buyers (the participant) and sellers (TIAA) as prescribed in the relevant GAAP accounting guidance. Participants have the option to allocate their contributions between the TIAA Traditional Annuity and a number of investment choices, such as mutual funds and the CREF Accounts, whose fair values are readily observable. Because participants typically allocate contributions among several choices, including the TIAA Traditional Annuity, and all transactions are at current contract value, the assumption is that each investment purchase is being made at fair value since these purchases are not distressed and are made between willing buyers and sellers in open market conditions where a participant has a variety of investment choices.
- When benefit plan participants in higher education or other similar industries with a pension/employee benefit plan change employers, they often enroll in new plans with very similar TIAA investment options, including the TIAA Traditional Annuity. Because these transactions continue to occur along with continued participant contributions at current stated contract values, the market observable presumption is that the contract value of current funding represents a good approximation of fair value based on the willingness of the participant to continue to contribute. For each contribution, TIAA continues to record a contractual liability for the current contribution and does not consider such liability to have any embedded gain or loss.
- Upon death or any other condition where the contract is settled with the participant, as prescribed within the applicable plan documents, the participant surrenders the future accumulation benefits in exchange for a cash payout based on the contract value. This example demonstrates that the contract value can be monetized when a distributable event occurs.

Quantitative model based on discounted cash flows
We used 22 years of data (1990–2011) to determine the blended return on TIAA Traditional Annuity contracts for the participant population and compared that to the standard 10-year risk free rate based on the available "on the run" ten years, Treasury and assumed a uniform monthly contribution each month to a portfolio of "on the run" 10-year Treasuries.

Summary statistics show the following results for the 22-year period:

- Correlation of 90% between the 10-year Treasury and TIAA Traditional Annuity average return
- Given a Pearson correlation table, the correlation appears to be statistically significant (one can reject the null hypothesis that the correlation is happenstance). The mean spread over 10-year Treasuries for the observed 22-year period is 126 basis points.
- Standard deviation of the spread is 68 basis points.

Average AAA corporate credit spreads for the same period, derived from Moody's data in all months where such data is provided, is 89 basis points with a 39 basis-point standard deviation and a correlation of 97%.[6] The 126 basis-point TIAA Traditional Annuity spread over 10-year Treasuries seems reasonable given the 89 basis-point AAA corporate spread derived from the Moody's AAA corporate bonds over the same time frame. In other words, TIAA Traditional Annuity, on average, yields about 37 basis points above the typical AAA corporate credit spread. One can interpret the additional spread relative to the AAA corporate bond rate as a premium attributable to the overall illiquidity of the TIAA Traditional Annuity relative to a similarly rated corporate bond.

A 10-year risk free rate seems appropriate to use as a benchmark for the TIAA Traditional Annuity during the accumulating stage (for purposes of the above spread calculation) given the average participant's age is 48 to 49 years, implying that the average participant is 10 to 20 years away from a typical retirement age and thus contracts will not typically be monetized for several years.

The spread is assumed to represent the TIAA credit spread for long-term obligations of a highly-rated insurance company and thus, an anticipated crediting rate is considered to be a fair approximation of the discount rate used for an owner of the contract based on his or her expectation of future cash flows. All expected future cash flows would thus be discounted at TIAA's expected yield and thus the present value of future accumulations would reasonably approximate current contract values (i.e., valuation is akin to a floating rate bond which regularly resets to a "market" crediting rate for a highly-rated insurance company with relevant liquidity restrictions). TIAA contract holders are expected to receive accumulating annuity rates based on a risk-free rate plus the TIAA credit spread over the life of an accumulating annuity which, over a long-term cycle of the annuity contract, will revert back to a mean (historically 126 basis points over 10-year Treasuries for the period from 1990 to 2011).

Even with interest rates at their current lows, we believe that the long-term risk-free rate would have to remain at 2.5% or less for a significant amount of time for the value of the guaranteed rates on typical retirement annuity contracts, to be worth more than the risk-free rate plus the TIAA credit spread. During periods of low interest rates we have observed a significant increase in the credit spread. As a result, the potential impact of the prolonged low interest rates has not impacted the valuation of the TIAA Traditional Annuity. As of June 2012, 10-year Treasuries are yielding approximately 1.67%. While the 3% guarantee rate exists as a term within the TIAA Traditional Annuity contract, the term does not appear to provide any meaningful value to owners of the contract given the term structure of interest rates and the nature of the yield curve.

The primary assumption is that the long-term rate of the TIAA Traditional Annuity during the accumulating stage will be, on average, 126 basis points above 10-year Treasuries with the spread above Treasuries representing the TIAA credit spread. While there is no guarantee what future crediting rates will be available to plan participants, past returns have been normally distributed over the last 22 years relative to other observable risk-free or "low-risk" investments and market inputs.

The observation period was chosen to represent the start of increased transparency within the modern capital markets and thus represents a period where investors can more readily achieve transparent pricing and lower switching costs than may have existed in earlier periods. This period was represented by such factors as:

- Increased widespread use of the Internet and personal media and thus, increased transparency of financial products and rates available to TIAA participants
- Usage of modern portfolio-management techniques, including increased duration matching used by general account portfolio managers
- Competitive pressures derived from additional financial services providers and other financial services networks, such as retail brokerage and wealth management/financial counseling as it became available to core participants

TIAA Traditional Annuity crediting rates

The following example uses discounted cash flow to determine the crediting rate:

- $1,000 TIAA Traditional Annuity balance earning an average annual rate of 4.17% during 2011 (average crediting rate for the year ending December 31, 2010)
- In one year, the value would be $1,042.
- If the $1,042 amount is discounted back at 4.17%, the original value of the accumulation at the beginning of the year would be $1,000.
- The discounted rate is reasonable because, over observed long-term horizons, the TIAA Traditional Annuity has, on average, yielded 126 basis points over 10-year Treasuries (standard deviation of 68 basis points) and the 2011 Treasury yield was 2.79%. Thus, for 2011, the average TIAA Traditional Annuity was accumulating at 10-year Treasury plus 138 basis points; well within one standard deviation (which would be 126 plus or minus 68 which equals 58 to 194 basis points).
- This hypothesis can be continuously back-tested to see if correlations and spreads can be maintained over long periods of time.

Experience and stability

- The TIAA-CREF advantage: TIAA-CREF is an industry leader in providing retirement income.
- From 1918 through December 31, 2010, TIAA-CREF paid out $292.3 billion in annuity payments and other benefits.[7]
- In 2010 we paid out more than $10 billion in retirement income and other payments to 700,000 participants.

To learn more about the TIAA Traditional Annuity and TIAA-CREF's full menu of products and services, visit tiaa-cref.org.

The views expressed on the previous pages may change in response to changing economic and market conditions. Past performance is not indicative of future results. The material is for informational purposes only and should not be regarded as a recommendation or an offer to buy or sell any product or service to which this information may relate. Certain products and services may not be available to all entities or persons.

Notes

[1] Assets held in the TIAA General Account, which backs TIAA Traditional across all retirement plans and accounts, totaled $200.9 billion as of June 30, 2011.

[2] Participants do not invest in the TIAA General Account portfolio which supports the minimum guaranteed returns, additional amounts and payout obligations under the TIAA Traditional Annuity.

[3] When you transfer out of the TIAA Traditional Annuity and transfer back within 120 days, the amount, up to your original transfer, will be credited with the same interest rates that would have applied if the transfer out had not taken place. Such interest will be credited from the date the transfer in was made. Interest will not be paid for the period from date of transfer out to the date of transfer in.

[4] All guarantees are based upon TIAA's claims-paying ability.

[5] For its stability, claims-paying ability and overall financial strength, TIAA currently holds the following ratings: A.M. Best (A++ as of 4/12), Fitch (AAA as of 6/12), Moody's Investors Service (Aaa as of 6/12) and Standard & Poor's (AA+ as of 5/12). Per S&P criteria, the downgrade of U.S. long-term government debt limits the highest rating of U.S. insurers to AA+ (the second highest rating available). There is no guarantee that current ratings will be maintained. Ratings represent a company's ability to meet policyholders' obligations and claims and do not apply to variable annuities, mutual funds or any other product or service not fully backed by TIAA's claims-paying ability. These ratings are subject to change and do not apply to variable annuities, mutual funds or any other product or service not fully backed by TIAA's claims-paying ability. Per S&P criteria, the downgrade of U.S. long-term government debt limits the highest rating of U.S. insurers to AA+ (the second-highest rating available).

[6] The example is based on a 30-year Treasury and "AAA" corporate rate using bonds of 20–30 years till maturity. Source: http://research.stlouisfed.org/fred2/data/AAA.text. It includes 205 monthly observations between 1990 and 2011.

[7] Other benefits from TIAA and CREF include: additional amounts paid on TIAA Traditional contracts above the guaranteed rate, surrender benefits and other withdrawals, death benefits, health insurance and disability insurance benefits, and all other policy proceeds paid.

Retirement Annuity (RA) contract form series 1000.24; Group Retirement Annuity (GRA) contract form series G-1000.4 or G-1000.5; G1000.6 or G1000.7 (not available in all states); Supplemental Retirement Annuity (SRA) contract form series 1200.8; Group Supplemental Retirement Annuity (GSRA) contract form series G1250.1 (GSRAs are not available in all states); IRA Annuity contract form series 12.80.2 or 1280.4 or TIAA-IRA-01 (not available in all states); Roth IRA Annuity contract form series 1280.3 or 1280.5 or TIAA-Roth-01 (not available in all states); and Keogh Annuity contract form series G1350 (Keoghs are not available in all states) are issued by TIAA (Teachers Insurance and Annuity Association), 730 Third Avenue, New York, NY 10017-3206.

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