nuveen
A TIAA Company

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# The next evolution of retirement plans: securing lifetime income

## KEY POINTS

- At Nuveen, we believe that adding the TIAA Secure Income Account to a well-diversified Qualified Default Investment Alternative (QDIA), such as a target date fund, a managed account or a model portfolio, can improve projected retirement outcomes, increase guaranteed lifetime income and reduce multiple risks in retirement.
- Our modeling suggests that an increasing QDIA allocation to the TIAA Secure Income Account, up to a maximum of 40% at the point of retirement, may provide improved retirement outcomes for plan participants who elect to annuitize a portion of their portfolio when they retire.[1]
- Investing in the TIAA Secure Income Account as early as possible offers both investment and lifetime income benefits. This paper compares the risk/return characteristics of a group flexible premium deferred fixed annuity relative to U.S. bonds during the participant's employment years, and other potential benefits for participants who purchase a TIAA payout annuity and enjoy lifetime income in retirement.

*In 2005, and prior to the passage of the Pension Protection Act (PPA) a year later, approximately $70B of retirement assets were allocated to target date funds.[2] Then, the PPA provided a safe harbor for target date funds and other asset allocation products/services. Today, almost $3T is allocated to target date products/services.[2] Similarly, the Setting Every Community Up for Retirement Enhancement Act (SECURE Act) of 2019 provides a safe harbor for employers to add annuities to their plan menus, if certain requirements are met. We could potentially see robust growth in these products/services as a result.*

We believe that adding the TIAA Secure Income Account to a well-diversified Qualified Default Investment Alternative (QDIA) can improve expected retirement outcomes, increase guaranteed lifetime income and reduce multiple risks. In this paper, we examine which components and how much of the portfolio could potentially be replaced, as well as potential timing.

## WHAT IS THE TIAA SECURE INCOME ACCOUNT?

The TIAA Secure Income Account is a flexible premium group deferred fixed annuity. It delivers guaranteed interest rates and can provide bond-like returns with lower volatility, including principal protection, while participants save for retirement.[3] Plus, at retirement, it offers participants the option — but not the obligation — to convert some, or all, of their account balance into a stream of guaranteed lifetime income payments.

Similar to other deferred annuities, the TIAA Secure Income Account has two distinct phases: accumulation and income. The accumulation phase occurs when a participant contributes to the annuity account. The income phase occurs in retirement when a participant exercises their option to annuitize and receive a stream of guaranteed lifetime income payments.

*Our investment analysis shows that the allocation to the TIAA Secure Income Account can beneficially replace a portion of the fixed income component.*

## WHERE SHOULD PARTICIPANTS ALLOCATE FROM?

Our investment analysis shows that an allocation to the TIAA Secure Income Account can add value when replacing a portion of the fixed income component.

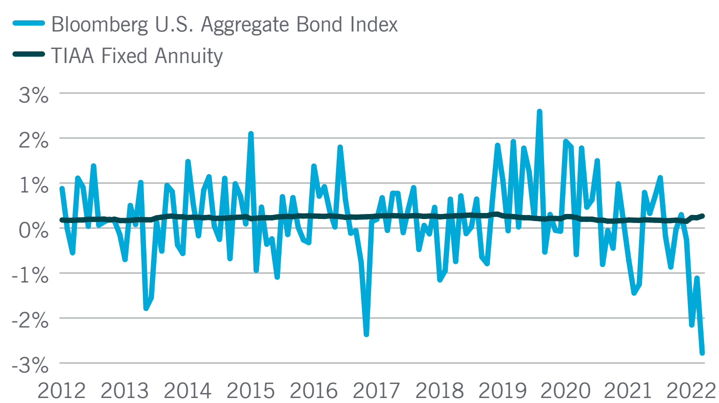
Why fixed income and not equities? The TIAA Secure Income Account's simulated long-term returns have historically been comparable to the Bloomberg U.S. Aggregate Bond Index, but with lower volatility (Figure 1).[4] This can lead to higher risk-adjusted returns for the annuity relative to the Bloomberg U.S. Aggregate Bond Index.

Further, the TIAA Secure Income Account has an effective annual crediting rate that is declared monthly for new contributions and remains in effect through the remainder of the declaration year (March – February). We also see a favorably high ratio of annualized return/standard deviation with the annuity relative to other assets.

On the other hand, readjusting the allocation from the equity portion of the QDIA can result in suboptimal outcomes due to reduced future market returns.

### Figure 1: TIAA Secure income Account offers a similar yield profile with lower volatility

*Monthly returns of a liquid TIAA Fixed Annuity vs. Intermediate-term Bond Index*[5]




**Benefits of the TIAA Secure Income Account**

- The data shown above is for a liquid TIAA Fixed Annuity similar to the TIAA Secure Income Account, but results may vary[6]
- Lower volatility than Bloomberg U.S. Aggregate Bond Index, with similar return profile over a market cycle
- Short duration (0.1) years protects against interest rate risk
- Strong downside-protection, with a narrow positive range of the interest crediting rate
- Low correlations to all major asset classes

Source: Morningstar Direct: Bloomberg U.S. Aggregate Bond Index data. TIAA: Supplemental Retirement Annuity.

TIAA Traditional Supplemental Retirement Annuity (SRA) contract monthly returns are calculated based on the actual crediting rates applied to a series of equal deposits every month during the projection period.

## HOW LARGE SHOULD THE ALLOCATION BE?

Nuveen's modeling suggests that a 40% allocation of the total retirement account is the appropriate target allocation at the time of retirement (Figure 2 and Figure 4). We assumed the participant at that point fully annuitized their allocation while considering five accumulation glidepaths with maximum annuity positions of 30%, 35%, 40%, 45% and 50% on the



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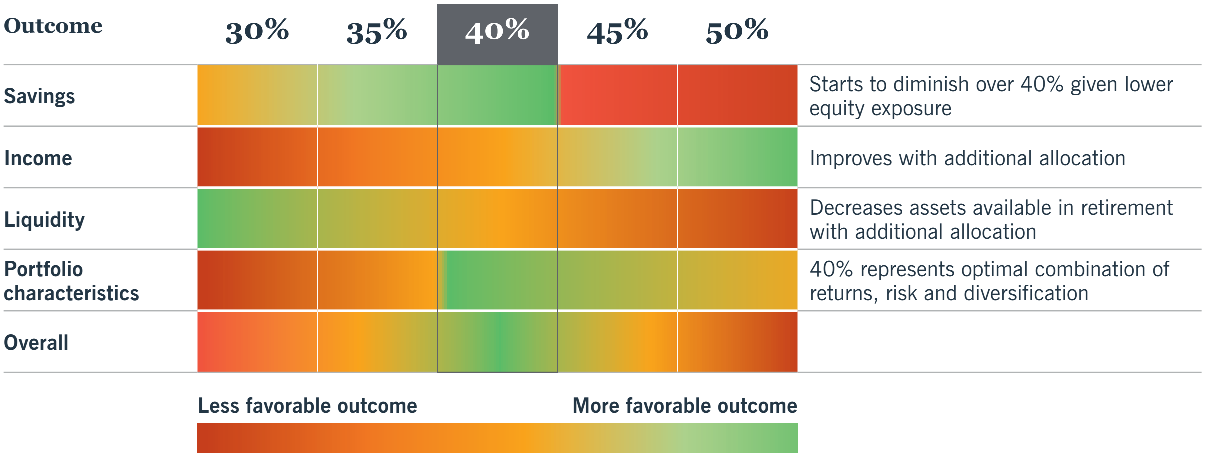
### Figure 2: Overall, a 40% allocation at retirement can help achieve the most preferable outcomes




Please note: The Nuveen TIAA Lifecycle Index CIT/TIAA-CREF Lifecycle Index Fund glidepath was used as the sample glidepath to represent the allocation methodology.

### Figure 3: Four measured outcomes contributed to an overall score

| | Savings | Income | Liquidity | Portfolio characteristics |
|---|---|---|---|---|
| **Outcome definition** | Measures projected savings leading up to and at retirement | Measures ability to achieve retirement income goals | Measures ability to use additional savings in the event of an emergency | Measures key portfolio characteristics at retirement date |
| **Metrics** | • Median savings near and at retirement | • Percent annuity income<br>• Total guaranteed income<br>• Probability of income via systematic withdrawal | • Median savings after fully annuitizing | • Expected returns<br>• Risk-adjusted returns<br>• Diversification<br>• Risk |
| **Positive impact with TIAA Secure Income Account** | ● | ● | | ● |

date of retirement. Our models, developed by the Nuveen target date multi-asset team, also assumed that the participant stopped making ongoing contributions during the income phase.

After examining four measured outcomes: savings, income, liquidity and portfolio characteristics (Figure 3) and ranking the five glidepaths, we combined the final results to determine an overall score.

Savings was measured at +10 years to retirement, +5 years to retirement and at retirement. A 40% allocation to the TIAA Secure Income Account at retirement had a positive outcome across all three time periods. The TIAA Secure Income Account returns, based on historical returns of similar TIAA annuities, have more favorable risk/return characteristics relative to diversified fixed income, slightly improving the median savings outcome. The annuity allocation at 45% and 50% had lesser median savings outcomes since these glidepaths allocate less to equity and therefore sacrifice too much growth relative to the value of the guarantee.

**Income** measurements favored glidepaths with the highest annuity allocations, with the TIAA Secure Income Account at 50% ranking the best relative to the other modeled scenarios, as one would anticipate when seeking income.

**Liquidity** in this sense is defined as having savings on hand for emergencies (or to bequeath to beneficiaries if not used in retirement). Overall, the



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> *Our model shows that if one equally weighted these outcome measures (implying that the participant equally favors each outcome), a 40% allocation to the TIAA Secure Income Account at retirement ranked the highest overall.*

TIAA Secure Income Account at 50% ranked the lowest on this measure at the point of retirement, whereas current target date fund allocations and lower annuity allocations fared best.

**Portfolio characteristics** include expected returns, risk/adjusted returns, diversification and multiple risk measures (expected risk, worst 12 months and duration). The glidepaths with the TIAA deferred fixed annuity outranked a comparable target date series (the greatest annuity allocation ranked highest), given the attractive risk-adjusted returns, diversification and risk benefits. The TIAA Secure Income Account at 40% ranked best for portfolio characteristics, while the current target date series ranked the lowest. Higher levels of annuity allocation (above 40%) ranked slightly worse on overall return metrics, in part due to the lower equity allocation.

Our goal was to determine which glidepath that included the TIAA Secure Income Account could be appropriate for the average participant. Therefore, we equally weighted the outcomes. Some participants may strongly favor income (therefore a higher annuity allocation), while others may choose liquidity (a lower allocation) in retirement. The answer depends on a series of tradeoffs based on individual preferences. Nuveen and TIAA believe that plan fiduciaries should take a range of factors into account when determining how to design the QDIA for their plans, especially if their goal is to have a retirement income plan versus a supplemental savings plan.

Our model shows that if one equally weighted these outcome measures (implying that the participant equally favors each outcome), a 40% allocation to the TIAA Secure Income Account at retirement ranked the highest overall.

## WHEN IS THE RIGHT TIME TO ALLOCATE?

To determine optimal timing of an allocation to the TIAA Secure Income Account, we analyzed three QDIA glidepaths that reached a 40% allocation at retirement: the annuity initially purchased at +45 years, +25 years and +15 years from retirement.

In the glidepath shown in Figure 4, we conducted this analysis using historical performance of the Bloomberg US Aggregate Bond Index and the TIAA Fixed Annuity. By purchasing the annuity as early as possible, the participant can benefit from the attractive risk/return characteristics of the annuity relative to U.S. bonds.

We found an improvement to the median savings balance when allocating to the annuity at +45 years to retirement. This benefit slightly declines at +25 years to retirement, and declines further at +15 years to retirement. Analyzing a wide range of annuity allocations allows us to highlight the benefits and trade-offs of adding an annuity to an equity and fixed income glidepath series.

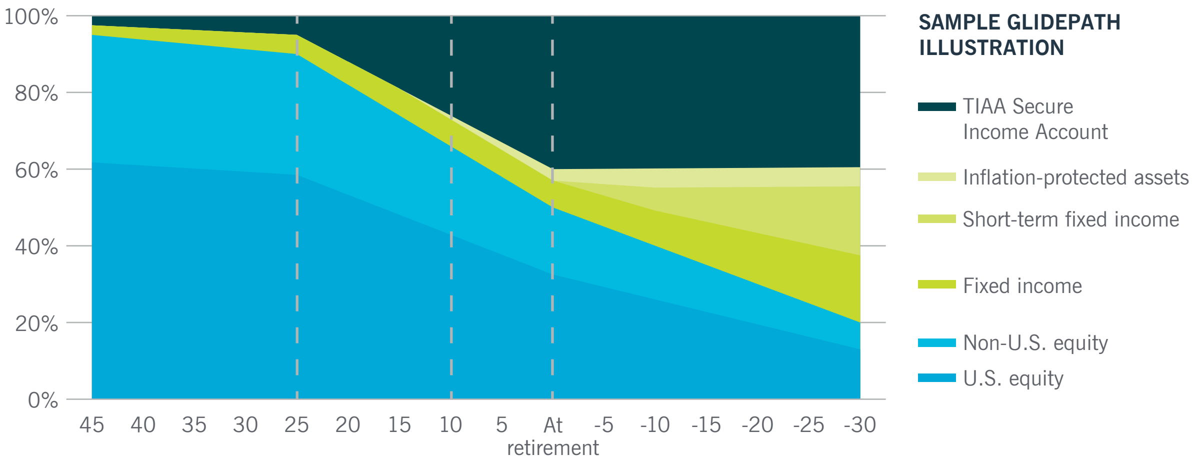
In all cases, no matter when the annuity is initially purchased, there was a directly measureable benefit to median savings at retirement relative to our baseline model which does not have an allocation to the TIAA Secure Income Account. These results are based on historical performance, and will vary if underlying assumptions are changed.

## OPPORTUNITY FOR GROWTH AND INCOME

The above analysis does not include the benefits of TIAA's distinctive sharing the profits approach. The TIAA Secure Income Account offers a unique opportunity for more growth and income for long-term contributors — a loyalty bonus that seeks to reward savers with additional amounts of income based, in part, on how long they have been investing.[7] Contributing early and often may result in a greater amount of lifetime income per dollar annuitized compared to transferring assets into the TIAA Secure Income Account shortly before selecting lifetime income. However, even short-term contributors can benefit relative to those who

**Figure 4: Allocating to the annuity +45 years to retirement showed most improved savings.**

*TIAA Secure Income Account of 40% (max) reached at retirement*




| Glidepath allocation | Equity | Fixed income | TIAA Secure Income Account |
|---|---|---|---|
| Starting allocation | 95.0% | 2.5% | 2.5% |
| 25 years to retirement | 90.0% | 5.0% | 5.0% |
| 10 years to retirement | 66.0% | 8.0% | 26.0% |
| At retirement | 50.0% | 10.0% | 40.0% |
| Landing allocation | 20.0% | 40.0% | 40.0% |

simply accumulate outside the annuity and then elect lifetime income at retirement. This additional benefit comes from the sharing of excess profits accrued over time, as well as changes in mortality expectations and the financial standing of TIAA, among other factors.

As a hypothetical example, assume one employee made steady contributions to a TIAA fixed annuity account over the 10 years prior to retirement, versus another who made a lump sum deposit the day before retirement. Both fully annuitized their respective (same size) balances on the day of retirement.

Although past performance is not indicative of future performance, our modeling showed that a 10-year regular contributor to the TIAA Secure income account received, on average, 5. 50% more initial lifetime income than a new contributor. Our modeling assumed that this relationship held true over the modeling period.[8]

In addition to TIAA historically sharing profits at the time participants start receiving lifetime income, TIAA has historically also shared profits during a participant's life in retirement by way of periodic non-guaranteed increases in lifetime income for in-flight annuitants when declared by TIAA's Board of Trustees. This provides annuitants with the opportunity to receive higher retirement income payments over time. In fact, TIAA has increased lifetime income payments for in-flight annuitants 17 times over the 27 years since 1995 at an average of about 0.99% per year.[9]

## LOWERING RISKS IN RETIREMENT

Longevity risk, cognitive risk, market risk and liquidity risk are all directly correlated (positively or negatively) with the level of annuity allocation in a retirement plan.

For instance, the more guaranteed lifetime income available via an annuity, the lower the longevity



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### Figure 5: The TIAA Secure income Account addresses most types of retirement risk

| Risk type | Risk definition | Positive impact post annuitization |
|---|---|---|
| **Market risk** | Risk of savings falling during market downturn | ● |
| **Inflation risk** | Risk of income not keeping pace with purchasing power* | ● |
| **Longevity risk** | Risk of outliving one's savings | ● |
| **Cognitive risk** | Risk of declining mental capacity | ● |
| **Liquidity risk** | Risk of not having access to discretionary savings in case of emergency | |

* **Inflation risk** is potentially reduced when the allocation of the TIAA fixed annuity is sourced from core fixed income as bonds typically underperform inflation. Furthermore, the potential for income to increase that TIAA offers in retirement may help offset some inflation risk.

risk, as guaranteed income can help ensure that an individual does not outlive their savings.

Further, more guaranteed income may help reduce the complexity of decisions regarding retirement savings for the participant, easing concerns around cognitive risk associated with financial decisions. Additionally, a higher allocation to the annuity reduces portfolio volatility and may lower market risk.

By annuitizing, inflation risk is potentially reduced when the allocation to the annuity is sourced from core fixed income. Bonds typically underperform in inflationary environments; furthermore, the potential for increases in income TIAA offers in retirement (described earlier) can help offset some of the negative effects of inflation. However, if the allocation reaches a level where it needs to be partially sourced from equities, the relationships changes direction as equities have historically outpaced inflation.

On the other hand, a high level of annuitization in retirement increases liquidity risk, as savings allocated to the annuity lower the discretionary amount available in retirement once the participant has annuitized.

A participant primarily concerned about longevity and cognitive risk may prefer high allocations to the TIAA Secure Income Account. A participant focused on liquidity risk may be averse to ceding control over a portion of their assets at retirement via annuitization. However, prior to annuitizing at retirement, the TIAA Secure Income Account allocation is fully liquid if a participant takes an authorized distribution and participants can receive their full balance without any penalties or charges deducted. Participants always have the option — but not the obligation — to annuitize their allocation in accordance with any applicable plan conditions. Finally, annuitization does not have to be a "one-and-done" decision. Participants can partially annuitize their TIAA Secure Income Account balance, live in retirement for a few years and annuitize more at a later date plus leave any remaining balance in order to transfer to their beneficiaries.

## THE BOTTOM LINE

We believe including the TIAA Secure Income Account within a QDIA can enhance retirement outcomes and mitigate certain risks for participants. Adding the annuity early allows for the greatest benefit in risk-adjusted returns while also offering the greatest opportunity for lifetime income. The attractive risk/return characteristics of the annuity relative to U.S. bonds also underscore this point. Further, reaching a 40% allocation to the TIAA Secure Income Account at retirement may provide optimal risk/return outcomes, while mitigating the liquidity risk of increased annuity allocation. This is a modeled approach, and individual circumstances and preferences may warrant different QDIA designs, with different glidepaths and allocation levels. It is important to note that the age of the participant and the economic environment at the point of annuitization are significant determining factors of success. But we believe these benefits may be appropriate for a range of investors at various points of their careers.

**For more information, please visit us at nuveen.com/lifetimeincome.**

**Endnotes**

1 This is provided for illustrative purposes only and is not a recommendation or investment advice.

2 Morningstar Target Date Landscape report

3 There are substantial differences between intermediate-term bond indices and fixed annuities, including differing investment objectives, costs and expenses, liquidity, safety, guarantees or insurance, and fluctuation of principal or return. **Past performance does not predict or guarantee future results.** There is no assurance that additional amounts above the TIAA Traditional Annuity's guaranteed minimum rate will be declared in the future.

4 Source: TIAA Actuarial Department calculations. TIAA Traditional Supplemental Retirement Annuity (SRA) contract monthly returns are calculated based on the actual crediting rates applied to a series of equal deposits every month during the projection period. The Bloomberg Aggregate Index returns (the "Index") have been adjusted by 0.20% per annum as a proxy to reflect investment management fees that could potentially apply if the Index was actually a fund. The actual level of investment management fees could be higher or lower. It is not possible to invest in the Index directly. TIAA Traditional does not have any explicit expense charges but may impose charges on certain withdrawals. There are substantial differences between intermediate-term bond indices and fixed annuities, including differing investment objectives, costs and expenses, liquidity, safety, guarantees or insurance, and fluctuation of principal or return. **Past performance does not predict or guarantee future results.** There is no assurance that additional amounts above the TIAA Traditional Annuity's guaranteed minimum rate will be declared in the future.

5 The use of TIAA Traditional Annuity data is for illustrative purposes. Results for the TIAA Secure Income Account may vary.

6 Rates vary by contract. All guarantees are based on TIAA's claims-paying ability. TIAA Traditional is a guaranteed insurance contract and not an investment for federal securities law purposes. **Past performance is no guarantee of future results.** The rates TIAA credits are quoted as effective annual rates with interest compounded daily and, once declared, remain in effect during the current declaration year (01 March 2022 – 28 February 2023). This means that funds applied to TIAA Traditional from 01 June 2022 through 30 June 2022 will be credited with the indicated effective annual rates until 28 February 2023, and that the rates are subject to change starting 01 March 2023.

7 https://www.tiaa.org/public/about-tiaa/news-press/press-releases/2022/03-09

8 Source: TIAA Actuarial Department, January 2022, based on a study that compared the amount of initial lifetime income that would have been received by two hypothetical participants beginning lifetime income, for each of the 337 months from 01 January 1994, through 01 January 2022, using actual historical data of TIAA's Standard payout annuity. The two hypothetical participants are the same age and elect a single-life annuity with a 10-year guarantee period. The career contributor: level monthly contributions to TIAA Traditional under the Retirement Annuity Contract over 10 years before retirement. The new contributor: transferred the same accumulation into TIAA Traditional as the career contributor on the day before annuity payments begin, and also selects lifetime income. The career contributor's initial lifetime income exceeded that of the new contributor in 294 of the 337 retirement months with an average initial lifetime income advantage of 5.50%. Over the full study period, the career contributor's biggest lifetime income advantage was 18.1% and their smallest advantage was -6.95%.

9 Source: TIAA Actuarial Department. Interest or income in excess of the guaranteed amount is not guaranteed for periods other than the period for which it is declared. **Past performance is no guarantee of future results.**

TIAA may share profits with TIAA Secure Income Account owners through declared additional amounts of interest and through increases in annuity income throughout retirement. Additional amounts are on TIAA Secure Income Account contracts available within an employer-sponsored plan. Additional amounts may be increased the longer accumulation occurs before annuitization. These additional amounts are discretionary, and are not guaranteed.

TIAA may provide a loyalty bonus based on the length of time the funds are held in TIAA Secure Income Account. This additional income is only available upon annuitization and the amount of the bonus is discretionary and determined by the TIAA Board of Trustees on an annual basis.

TIAA Traditional and the TIAA Secure Income Account are fixed annuities issued by Teachers Insurance and Annuity Association of America (TIAA), New York, NY. TIAA Secure Income Account is a fixed annuity product issued through this contract by Teachers Insurance and Annuity Association of America (TIAA), 730 Third Avenue, New York, NY, 10017: Form series including but not limited to: TIAA-UQDIA-002-K and related state specific versions. Not all contracts are available in all states or currently issued. Any guarantees under annuities issued by TIAA are subject to TIAA's claims-paying ability. The TIAA Secure Income Account is a guaranteed insurance contract and not an investment for federal securities law purposes.

The TIAA Secure Income Account is a guaranteed insurance contract and not an investment for federal securities law purposes. Interest credited to the TIAA Secure Income Account includes a guaranteed rate, plus additional amounts as may be established by the TIAA Board of Trustees. Additional amounts are not guaranteed for periods other than the period for which they are declared. All guarantees under contracts issued by TIAA are based on TIAA's claims-paying ability. **Past performance does not predict or guarantee future results.**