

A True Value Comparison of Guaranteed Income

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EXECUTIVE SUMMARY

The passage of the SECURE Act and SECURE 2.0 in recent years makes the mass adoption of a defined benefit-like lifetime retirement income solution possible for the first time within a defined contribution (DC) plan structure. Indeed, we've made progress in the roughly five decades since the launch of the 401(k) plan. However, the DC plan landscape is changing meaningfully as we begin to systematically and holistically address decumulation.

This is particularly relevant now because advances in health science and the aging of the Baby Boom generation mean that more Americans than ever before are living longer in retirement than at any time in history. As a result, a record number of Americans may be at risk of outliving their retirement savings or potentially living way below their means because they are afraid to spend their savings.

Both plan sponsors and participants are motivated to adopt these lifetime income solutions. Offering in-plan income is another lever for plan sponsors to retain retiree assets while providing employees with a much-needed decumulation solution. Institutional pricing allows plan sponsors to offer guaranteed retirement income solutions at a much lower cost than an employee could achieve independently. Moreover, our survey data show that plan participants want an income solution but don't know how to solve for retirement income when left to their own devices. This makes in-plan retirement income offerings compelling additions to existing DC plans. Here, it's worth pointing out that according to Morningstar data, approximately two-thirds of target-date fund (TDF) assets are in vintages for those age 50 or older as of February 2025. As a result, plan participant needs and sponsor opportunities intersect today in a way they haven't in decades.

Here, we evaluate two popular guaranteed lifetime income solutions — a **guaranteed withdrawal benefit (GWB)** and an **immediate fixed annuity (IFA)**. A GWB is an insured income wrapper on an investment portfolio over which the account holder maintains control. In contrast, an IFA provides a (typically higher) guaranteed nominal income for life via an irrevocable transfer of an investor's assets.

As in all such broad DC plan discussions, there is no "one ring to rule them all." Each approach has unique advantages and disadvantages whose trade-offs must be weighed in the context of each specific plan. The GWB's advantages are that it allows participants to retain control over their income-producing assets, providing for liquidity and, possibly, a

American Century Investments does not currently manage assets according to the processes, capabilities or investment philosophies discussed here.

MULTI-ASSET STRATEGIES



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bequest. Specifically, the GWB allows the retained assets to be deployed in growth-oriented investments. This market exposure can potentially mitigate inflation risk and provide step-ups in account value (and, therefore, income payouts) over time.

An IFA, in contrast, lacks these characteristics. Because the plan participant exchanges assets for lifetime fixed payments, the IFA carries inflation and annuitant mortality risks. IFAs can be structured to address these risks but at the expense of higher fees and/or reducing the lifetime annuity rate. What an IFA does typically provide, however, is a higher rate of nominal income than a GWB. Note, too, that because IFA rates are closely tied to prevailing market interest rates, two otherwise identical retirees could end up with very different payouts depending on the level of interest rates at their respective retirement dates.

Our analysis includes a historical lookback and a Monte Carlo simulation for both approaches. In all cases, the IFA provides greater lifetime income. However, because the IFA requires the surrender of assets while the GWB account holder retains their annuitized assets, the GWB solution has a higher total value (income received plus current account balance) for a participant until some future break-even date. This break-even age will vary depending on the annuitized assets' investment allocation and performance. Of course, annuitant life expectancy will determine if that breakeven age is reached.

The historical analysis showed that the hypothetical lifetime total value of the GWB far exceeded the total income payments of the IFA. This is a product of the remarkable financial market returns of the last 20 years. To be clear, we don't claim that the next few decades will mimic prior ones. However, it is instructive that the GWB retains market upside and potential increases in the annuitized payout over time while guaranteeing that income cannot fall below the initial amount.

In our Monte Carlo simulations, the median break-even point between GWB and IFA solutions was age 87. That is, the median total value of the GWB was higher than accumulated IFA income up to age 87 but less thereafter. It's important to mention that only 50% of 65-year-olds will reach 87. Note that with all but the lowest starting account balances and worst simulated market outcomes, assets remained in the GWB upon death/ at the end of our simulation period — assets that can be used for bequest. It's also worth pointing out that the GWB is the only solution of the two compared that meets participants' stated preference for control over the annuitized portion of their account. Because the annuitant retains their assets, they can change their mind or adjust their retirement strategy if they desire to do so.

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In our Monte Carlo simulations, the median break-even point between GWB and IFA solutions was age 87. After that age, the IFA structure is superior.

INTRODUCTION: TOWARD A LIFETIME INCOME SOLUTION

Several converging factors mean we are approaching the broad adoption of a lifetime income solution within a DC plan structure. The long evolution of the DC landscape reflects the industry's collective efforts, including plan sponsors, regulators, record keepers/administrators, consultants/advisors and investment managers. These groups have worked together to provide effective, practical investment solutions alongside plan structures and incentives designed to encourage participant saving. This laudable progress brought innovations such as the first TDF, qualified default investment alternatives (QDIAs), prominent educational initiatives, and plan features such as auto-enrollment and auto-escalation. But it's become increasingly clear that the focus on accumulation alone has been insufficient.

Between DC plans' launch and the availability of a broad, fully fledged lifetime retirement income solution, plan participants have been left to solve decumulation on their own. Unfortunately, plan participants are unequipped to address one of the most challenging problems in personal finance. Indeed, knowing how long one will live, what future market returns will be, or what a "safe" withdrawal rate is for each unique situation is impossible.

That's especially relevant now when a record number of Americans are in retirement. Moreover, the uncertainty of the retirement investment horizon is accentuated by the fact that the demise of the traditional DB plan means 65 is no longer the singular starting line for retirement. Instead, people tend to retire 10 or 15 years on either side of 65, greatly complicating the retirement income calculus. In addition, retirees face solving and managing this problem while experiencing increasing cognitive challenges. The takeaway is clear — plan participants need an income solution now more than at any other point in the post-DB landscape.

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BACK TO THE FUTURE: MIMICKING THE TRADITIONAL DB PLAN IN A DC FORMAT

The next evolution of DC plans is to create a true retirement solution designed to address pre-retirement savings and guaranteed income through retirement. The good news is that the SECURE Act and SECURE 2.0 make this possible by clearing the way for guaranteed income solutions in DC plans in three ways:

1. **Fiduciary safe harbor clarified by the SECURE Act.** This provides clarity and legal protection for plan sponsors, encouraging the adoption of in-plan guaranteed income solutions.
2. **Defaulting into in-plan guaranteed income.** According to our survey data, most sponsors prefer that all participants' account balances default into in-plan guaranteed income solutions. The law now allows for this option.

3. **The SECURE Act provided a portability provision.** Technology platforms now also allow for the portability of retirement benefits, making it easier for participants to manage their retirement savings even as they change jobs throughout their careers.

These changes allow plan sponsors to offer participants a comprehensive retirement income solution. The regulatory environment, plan architecture, investment infrastructure, and sophistication of insurance and record-keeping solutions mean that DC plans now have the option to incorporate a DB-like guaranteed retirement vehicle.

Survey Data Show DC Plan Sponsors and Participants Have Complementary Goals

For years, we've been asking plan sponsors and participants about their beliefs and goals related to retirement. Citing data from the American Century Investments 2024 Plan Sponsor Survey and 2024 Participant Survey, plan participants repeatedly said they want guaranteed income, control and market upside concerning their post-retirement assets. More than 80% of surveyed participants also noted that it's at least "somewhat important" to leave the market value of their accounts to their heirs. So, the bequest motive is strong as well.

Several of these goals are at odds with one another. The real tension we want to highlight in the survey data is that participants want control of their assets and certainty of payout. Plan sponsors can reconcile these seemingly incongruous desires if they embrace innovative solutions backstopped by insurance.

The good news is that our data show that plan sponsors share similar, complementary goals with participants — the Venn diagrams do, in fact, overlap. Plan sponsors say they want to keep assets in the plan beyond retirement, provide a guaranteed income solution to their participants and would prefer to make in-plan guaranteed income the default for all participants. Nearly 80% of plan sponsors we surveyed said they were actively seeking or would prefer to retain retiree assets in the plan. Fully 76% of plan sponsors would prefer all participant accounts default to in-plan guaranteed income. Meanwhile, 92% of plan participants are interested in guaranteed income.

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TYPES OF RETIREMENT INCOME SOLUTIONS

In recent years, several retirement income products that incorporate insurance have been introduced to reflect this new reality. This paper will look at two prominent competing guaranteed income solutions.

The first is a single premium **immediate fixed annuity (IFA)**, or fixed-income annuity.

The second is a **guaranteed withdrawal benefit (GWB)**. A GWB is an insured income wrapper on an investment portfolio over which the account holder maintains control. In contrast, an IFA provides a (typically higher) guaranteed nominal income for life but requires an irrevocable transfer of an investor's assets.

Immediate Fixed Annuities

The pitch for an IFA can be summarized in a single sentence. In exchange for a chunk of money upfront, you get a set yearly income, no matter how long you live or what the economy and financial markets do (**Figure 1**).

FIGURE 1

IFA Mechanics Transform Retirement Savings into Lifetime Income



Key characteristics of an IFA include:

Guaranteed income. Income annuities provide a secure income stream for life, unaffected by market movements.

Irrevocability. Once purchased, an annuity is typically irrevocable, meaning participants cannot access the assets used to buy it.

Simplicity. This is the simplest “set it and forget it” strategy.

However, IFAs have shortcomings beyond the immediate surrender of a significant portion of one’s assets. In the first place, the annuitant is beholden to market rates when they retire (**Figure 2**). Paradoxically, while purchasing an IFA means you don’t have to worry about market risk after you retire, you are particularly vulnerable to changes in market interest rates before you retire.

IFAs also carry other risks, such as inflation and annuitant mortality risks. Inflation risk is straightforward — the annuity’s fixed payments don’t rise along with inflation over time. Annuitant mortality risk is the risk that the annuitant will die before recouping the value of their initial payment. These and other IFA shortcomings can be addressed with policy riders, but each such rider comes at a cost that ultimately reduces the income payout.

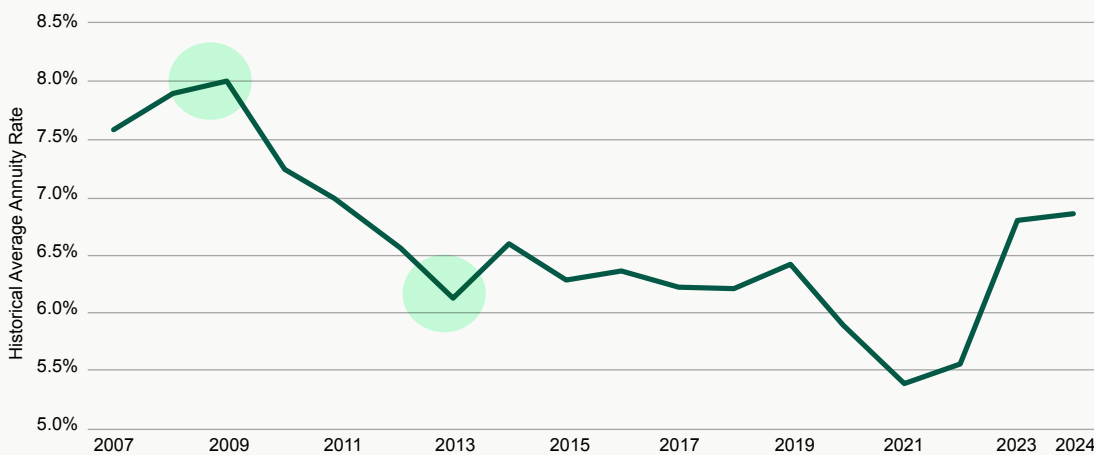
Another critical point of clarification is that a retiree typically annuitizes only a portion of their portfolio, often around 20% to 30% of their assets. The financial planning logic behind this approach is that the annuity addresses longevity risk and gives the annuitant certainty. Meanwhile, the remaining 70% or 80% of assets address the other participant concerns outlined earlier — liquidity, control, flexibility, upside and bequest.

Figure 2 illustrates the impact that market rates have on the income payout rate of the IFA solution. The average annuity rate went from 8% to 6% from 2009 to 2013. That could translate to a difference of several thousand dollars yearly for the rest of an annuitant's life. The point is that any immediate fixed annuity is captive to market rates, and therefore, retirement income is highly end-point sensitive. We can contrast this with the GWB solution, whose payout is typically at a lower rate and less sensitive to changes in market interest rates.

...any immediate fixed annuity is captive to market rates, and therefore, retirement income is highly end-point sensitive.

FIGURE 2

IFA Rates Can Vary Widely and Carry Market Timing Risk



Data from 1/1/2007 – 1/1/2024. Source: www.comparativeannuityreports.com, SPIA. Rates shown are average of 65-year-old male and female quotes..

Guaranteed Withdrawal Benefit

Because the GWB allows the account holder to retain their assets, this solution provides control, access and liquidity if necessary. Further, the insurance-wrapped assets can be invested in financial markets. This provides the potential for the market value to increase and, therefore, for the payout amount to increase (see the upper left-hand panel in **Figure 3**).

The payout amount depends on the income base, which may be greater than the market value of the account. The initial account value is referred to as the income base. This level can be established before retirement and grow through additional contributions and market action. Even if the account's market value declines, income payments cannot fall below this foundational level established by the income base. However, the income paid out can also increase if the account's market value rises with market appreciation. The key distinction here is between market value and income base. Market value can go up or down depending on market movements. The income base can go up but cannot go down. Tracking changes in the income base, the insured income payout can only go up but not down. This is illustrated in **Figure 3, Panels 3a and 3b**.

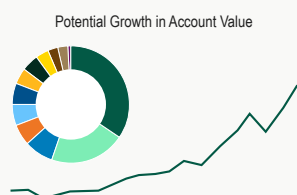
In the industry's parlance, the IFA is a fixed annuity, and the GWB is a variable annuity. The fixed annuity payout never changes, barring any inflation-adjustment rider. The GWB can vary to the upside, resetting higher if the account value is higher, but it cannot breach the prevailing floor. Both provide a guaranteed lifetime payout, solving the income and longevity problems.

FIGURE 3

GWB Allows for Control and Market Participation

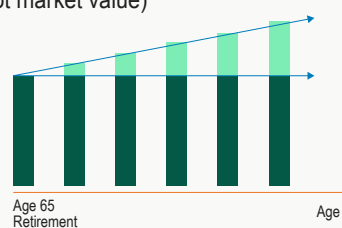
1. Control over assets in retirement

- Investments can capture market appreciation
- Flexibility to access assets



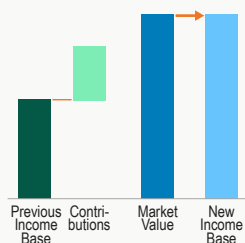
2. Secure income for life

- Income can only go up but not down
- Income is based on Income Base (not market value)



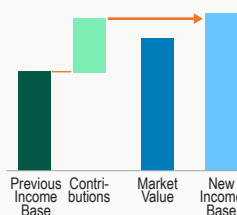
3a. Income Base uses high watermark

If Market Value > Previous Income Base plus contributions, New Income Base = Market Value



3b. Income Base uses high watermark (contd)

If Market Value < Previous Income Base plus contributions, New Income Base = Previous Income Base plus contributions



Data for illustration purposes only. Does not represent a particular investment strategy at American Century Investments.

The key benefits of a GWB include:

Control. While an IFA requires participants to surrender their assets, a GWB allows them to retain their assets.

Flexibility. Participants maintain access to their assets in the account, allowing them to withdraw funds in an emergency or if they change their mind.

Income protection. Market value can vary, but income base and payout rate are guaranteed, ensuring a known income level even during market downturns.

Potential for account growth and higher income. GWB often involves a mix of stocks and bonds, providing growth potential. A rising account value allows the income base to reset higher, resulting in a higher guaranteed payout in the future.

These benefits collectively aim to provide participants with a secure and flexible retirement income solution while addressing their preference for control and market upside.

Other Income Alternatives

There are also two other solutions we should acknowledge.

Non-Insured Investment-Only Approach

Various financial products, like managed payout and income portfolios, allow account holders to retain complete control over their assets. These non-insured, investment-only products provide liquidity, market participation, and a possible bequest but do not offer certainty around a lifetime income payout.

This approach carries a few other notable disadvantages.

1. This solution requires investment knowledge and sophistication that the average plan participant lacks.
2. Cognitive decline is real and accelerates over time, presenting an ever-higher hurdle to managing one's portfolio as one ages.
3. An often-overlooked disadvantage of this approach is the behavioral consequence of failing to solve for longevity risk. Retirees without some guaranteed lifetime income are likely to myopically focus on longevity risk, limiting their spending against the risk of outliving their savings. This fear increases the likelihood of underspending and living a lower quality of life, a less fulfilling retirement.

So, while we recognize the benefits of control, access, market participation and bequest motive in this self-directed, uninsured approach, it has serious downsides that need to be acknowledged. Indeed, the “self-directed, uninsured, investment-only approach” captures the lived experience of most plan participants today. These are the same survey respondents who overwhelmingly tell us year after year they want a professionally managed guaranteed income solution.

Qualified Longevity Annuity Contract

A qualified longevity annuity contract (QLAC) is perhaps more palatable than non-insured, investment-only approaches. This sophisticated solution aims to balance longevity risk and asset control. It is appropriate for someone concerned about the possibility of outliving their savings but still wants to retain control and access to a sizable portion of their assets.

The QLAC is similar to an IFA — an irrevocable annuity paying a known annual income. However, whereas an IFA takes effect immediately, a QLAC is a deferred annuity, usually taking effect at age 80 or 85. The QLAC's advantages are that it efficiently hedges longevity risk but requires another solution, typically investment-based, especially before the annuity kicks in at 80 or 85.

These non-insured, investment-only products provide liquidity, market participation, and a possible bequest but do not offer certainty around a lifetime income payout.

Our analysis doesn’t consider a QLAC as a separate solution. It’s similar to IFA on the one hand and comparable to a self-managed, investment-only approach otherwise. As a result, it retains some of the least desirable aspects of the go-it-alone approach but with less money because of the initial, irrevocable annuity purchase. And it also lacks the obvious immediate income benefit of the IFA. We will set aside the QLAC approach to focus on the more common retirement income solutions — IFAs and GWBs — making these the focus of further analysis in this paper.

COMPARISON OF GWBs AND IFAs

Figure 4 charts the basic features of the two retirement income solutions under study here. Note the sharp distinction between the IFA and GWB options. Lifetime income payout is the only characteristic they share! This graphic also acknowledges IFA’s income advantage over GWB options — giving up those other features buys the annuitant something. They are acquiring higher regular income, assuming all else remains constant.

Also, remember that we’re assuming retirees annuitize only a portion of their assets. So, when we show that the income annuity does not allow for investment control and flexibility, we speak solely in the context of the presumed 20%-30% of assets allotted to guaranteed retirement income solutions. In our framework, it’s precisely those other non-annuitized assets that IFA account holders must rely on to provide for market exposure, bequest motive, etc.

FIGURE 4

Comparison of Guaranteed Income Options		
Features and Benefits	Guaranteed Withdrawal Benefit (GWB)	Immediate Fixed Annuity (IFA)
Guaranteed Lifetime Income	●	●
Full Participation in Market Growth During the Income Phase	●	
More Liquidity Control (Access to Principal)	●	
Potential for Higher Initial Income		●

Source: American Century Investments.

American Century Investments does not currently manage assets according to the processes, capabilities or investment philosophies discussed here.

GWB AND IFA: EXAMINING HISTORICAL EXPERIENCES OF TWO PARTICIPANTS

Next, we use historical data to examine the experience of two participants invested in an IFA and GWB beginning in 2009. The setup is shown in **Figure 5**.

We assume **Participant 1** uses a GWB with a 5% guaranteed annuity income rate and 1.25% total annual fee, investing those annuitized assets in a 50/50 mix of stocks and bonds. The stock allocation is represented by a mix of global large-cap equity indices, while the Bloomberg U.S. Aggregate Bond Index captures the fixed-income component.

Participant 2 uses an immediate fixed annuity paying 8%. Both participants start with \$200K in assets in the annuitized portion of their retirement portfolios.

FIGURE 5

Assumptions for Historical Analysis of Two Participants' Experiences

Assumptions	PARTICIPANT 1 Guaranteed Withdrawal Benefit	PARTICIPANT 2 Immediate Fixed Annuity
Retirement Date	1/1/2009	1/1/2009
Retirement Age	65	65
Account Balance at Age 65 (withdrawals begin)	\$200,000	\$0
Guaranteed Income Rate	2009 Vintage: 5%	2009 Vintage: 8%
Asset Allocation	50% Stocks 50% Bonds	N/A
Fees	1.25%	Embedded

Source: FactSet, www.immediateannuities.com/comparative-annuity-reports. American Century Investments does not currently manage assets according to the processes, capabilities or investment philosophies shown here. Stocks are represented by a blend of 70% Russell 1000 Index/30% MSCI EAFE NR USD Index in return calculations. Bonds are represented by the Bloomberg U.S. Aggregate Bond Index. Returns are calculated net of fees for Guaranteed Withdrawal simulations.

A note about fees: The GWB carries a 1.25% total annual fee in our scenarios, while no fees are deducted from the IFA. We depict fees this way because the investor retains the GWB assets and pays ongoing management and insurance fees. This is not to suggest that the IFA comes free of charge! Far from it. An IFA may entail administrative fees, commissions, sales charges, and additional fees and expenses for any included contract riders. However, because the account holder surrenders their assets at the point of initiation, all IFA fees are embedded in the payout rate and do not figure into our analysis, which seeks only to evaluate post-retirement outcomes.

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We reiterate that we are comparing these two solutions in isolation. An annuity operates typically in the context of a participant’s entire portfolio and financial milieu. Social Security, IRAs or other tax-advantaged retirement accounts, as well as personal savings, risk tolerance and tax considerations, do not enter our analysis.

Even after limiting the historical simulation to purely DC plan account assets, we further assume plan participants deploy only a portion of their assets to each solution. That’s because 20% to 30% is a typical allotment to a fixed annuity. We size the GWB to match so that we provide an apples-to-apples comparison. This means we make no assumptions or claims about the remaining participant assets.

In **Figure 6**, we provide a historical example based on the abovementioned parameters to show how these approaches might work in practice. The intervening five-, 10-, 15- and 16-year horizons are also included to underscore the uncertainty around life events. Here, we speak of mortality risk and any unforeseen event that could cause retirees to reassess their financial plan and need liquidity. In those cases where the IFA annuity’s higher income advantage over time is curtailed for whatever reason, the GWB is comparatively more attractive.

FIGURE 6

Total Cash-Out Scenarios (Start Date: 1/1/2009)	Total Cash Received in a Liquidity Event		Difference
	PARTICIPANT 1 Guaranteed Withdrawal Benefit	PARTICIPANT 2 Immediate Fixed Annuity	
Total Cash Received in 5 Years	\$300,929	\$80,000	\$220,929
Total Cash Received in 10 Years	\$337,781	\$160,000	\$177,781
Total Cash Received in 15 Years	\$406,885	\$240,000	\$166,885
Total Cash Received in 16 Years As of December 31, 2024	\$424,650	\$256,000	\$168,650

This hypothetical situation contains assumptions that are intended for illustrative purposes only and are not representative of the performance of any security. There is no assurance similar results can be achieved, and this information should not be relied upon as a specific recommendation to buy or sell securities. Historical returns and annuity rate data were used in the simulation.

Participant 2’s total cash received in each scenario is based on an 8% fixed payout (\$16,000 per year) on the initial irrevocable annuity purchase of \$200,000. Participant 1’s total cash received in each scenario is based on a 5% payout of the prevailing income base, which was adjusted higher due to market appreciation during the study period. Participant 1’s payout also reflects the net-of-fee return of the initial \$200,000 investment plus market appreciation.

For **Participant 2** using an IFA, the total cash/cumulative income is the sum of annual income received from the start date through the specified year-end. So, using an 8% annuity, annual income is 8%*\$200K=\$16K. After five years, the total cash received is \$16K*5=\$80K. For the entire 16 years (2009 to 2024 inclusive), the total cumulative income for the IFA is \$16K*16=\$256K. The total value for **Participant 2** over any horizon is the same as cumulative income. Recall that the beginning value of \$200K has been surrendered to the insurance company to secure the annuity, so it is not included in the Total Cash Received calculation.

For **Participant 1** using a GWB, the annual annuity rate is lower at 5%. So, the annual income is $5\% \times \$200K = \$10K$ after five, 10, 15 and 16 years, which projects an income of \$50K, \$100K, \$150K, and \$160K, respectively. However, **Participant 1** received more than this amount because strong financial markets resulted in a rising account value and benefit base during the period. So, the cumulative income would have been nearly \$195K after 16 years in this hypothetical historical example.

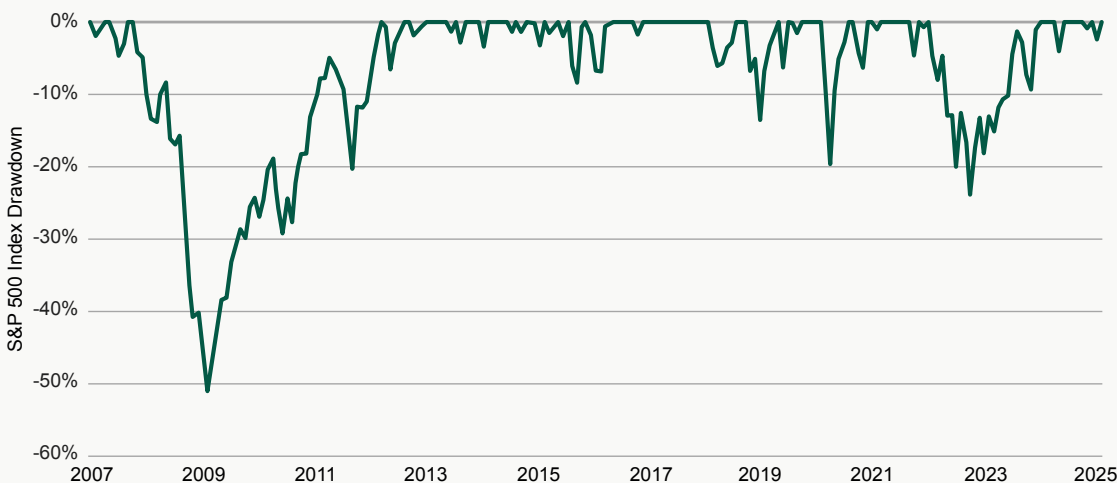
Because markets performed so well in this period, after 16 years, the current account balance would have been higher than it was at retirement. This is a remarkable outcome in which the annuitant received almost \$195K over 16 years **and** more capital in their account than they initially invested. Add together the total cumulative income and ending account balance, and we see the total value to the participant far exceeded what they would have realized from the IFA alone. The ending GWB account balance in this historical period would have been \$230K, which remained available to the annuitant or their beneficiary. While the IFA provides more annual income, the picture changes radically when we look at the total cash received.

Of course, we must wave a flag of caution here. Since the 2007-2009 Great Financial Crisis, markets have had strong returns, and past performance cannot guarantee future results. And markets do not move smoothly, even during periods of exceptional returns. With this in mind, we look at S&P 500 Index drawdowns going back 20 years. **Figure 7** illustrates that this period is not a linear growth story — it has had significant ups and downs. As recently as 2022, the S&P 500 experienced a drawdown of greater than 20%. We believe that having the income base and income guaranteed in a GWB would have helped an individual stay the course and remain invested in the markets despite this volatility.

While the IFA provides more annual income, the picture changes radically when we look at the total cash received.

FIGURE 7

Drawdowns Can Be Significant, Highlighting the Importance of an Insurance Wrapper

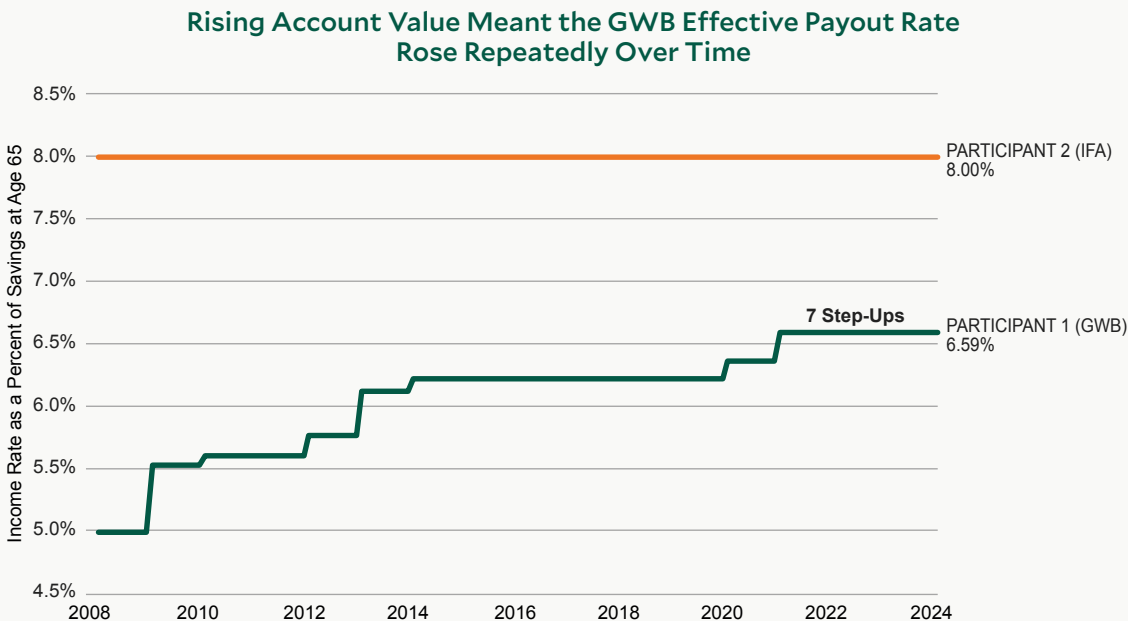


Data from 1/31/2007 – 1/31/2025. Source: FactSet.

Let's turn to **Figure 8** to see what can happen during rising markets. Here, we see the crucial distinction between fixed and variable annuities. On the one hand, the fixed-rate IFA provides certainty — the payout is fixed from the moment the annuitant surrenders their assets regardless of subsequent market movements. However, because GWB annuitants retain assets invested in financial markets, they also retain market upside. The income base at retirement provides a floor so that no matter how badly markets perform, income can't fall below that level.

Figure 8 shows the advantage of the variable annuity in rising markets — the GWB's income base repeatedly adjusted higher. The “variable” in the variable annuity is the account's market value, while the 5% rate remains the same. **Figure 8** shows the effective payout rate based on the initial account value. So, the annual annuity rate remains 5%, but the payout increased because that 5% was applied to a higher market value. Said differently, the GWB income base reset higher seven times, establishing a new, higher guaranteed income payout.

FIGURE 8



Data from 12/31/2008 – 1/31/2025. Source: American Century Investments. This hypothetical situation contains assumptions that are intended for illustrative purposes only and are not representative of the performance of any security. There is no assurance similar results can be achieved, and this information should not be relied upon as a specific recommendation to buy or sell securities. Historical returns and annuity rate data were used in the simulation.

It should be clear that the benefit of the GWB's structure is that the account holder retains market upside with no income downside below the initial income base. While the GWB payout rate starts at a lower level, positive market performance offers the potential for step-ups in the base account value and, therefore, in the payout size. It's worth repeating that as long as the account holder doesn't touch the assets, income never goes below the level established off the income base.

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FROM HISTORICAL TO SIMULATED FUTURE RETURNS: GWB VS. IFA ACROSS A RANGE OF HYPOTHETICAL MARKET OUTCOMES

Stepping away from the recent historical experience, **Figure 9** shows our setup for a 30-year Monte Carlo simulation. It uses the same contours as our earlier historical analysis in terms of savings, fees and allocations for our two participants. For the immediate annuity rate, we chose 6.5%, which is the average rate since 2007, according to data from Comparative Annuity Reports. We held the GWB rate constant at 5%, which is typical for such products. Our simulation uses [American Century’s 2024 capital market return assumptions](#) for the forecast returns. The same caveat about fees also applies.

FIGURE 9

Assumptions for Two Participants’ Experiences
Under a Range of Future Market Conditions

Assumptions for Monte Carlo Simulation	PARTICIPANT 1 Guaranteed Withdrawal Benefit	PARTICIPANT 2 Immediate Fixed Annuity
Retirement Date	2025	2025
Retirement Age	65	65
Savings at Retirement	\$200,000	\$200,000
Annuity Income Rate	5%	6.5%
GWB Allocation	50% Stocks 50% Bonds	N/A
Fees	1.25%	Embedded
Simulation Framework	Capital Markets Assumptions (CMA) 2024	N/A
Expectations	Dependent on Path	Fixed
Inflation Expectations	Per CMA	Per CMA

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The next few graphics show the range of simulated outcomes across the distribution of retirees. **Figure 10** is a straightforward depiction of income payouts alone over a 30-year horizon. This is where the IFA shows best — its value proposition is paying higher income in perpetuity no matter what financial markets do.

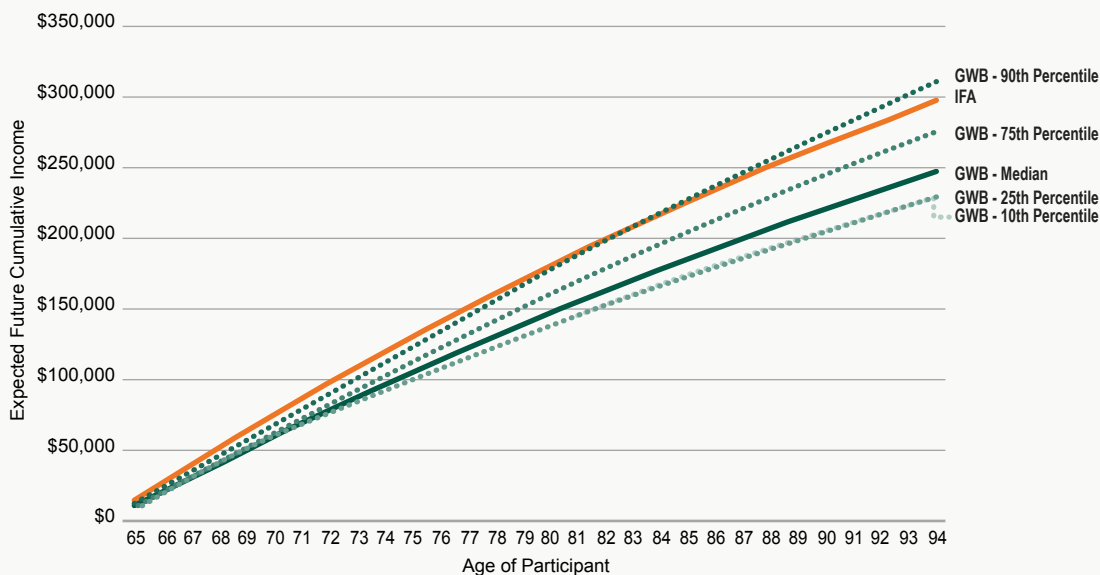
Nevertheless, there are a few other key takeaways. The first is that the income give-up in the worst market performance is small with the GWB (comparing median, 25th and 10th percentile outcomes). This is a testament to the effect of the income base mechanism, which dictates that income cannot fall below the initial level at retirement. So, with the GWB, even in the case of the very worst market outcomes, income was protected.

The second is that in the case of the very best market outcomes (90th percentile), the GWB produced more lifetime income than the IFA. So, **Figure 10** arguably shows the best features of the fixed-income annuity and the best of the variable annuity simultaneously.

...in the case of the very best market outcomes (90th percentile), the GWB produced more lifetime income than the IFA.

FIGURE 10

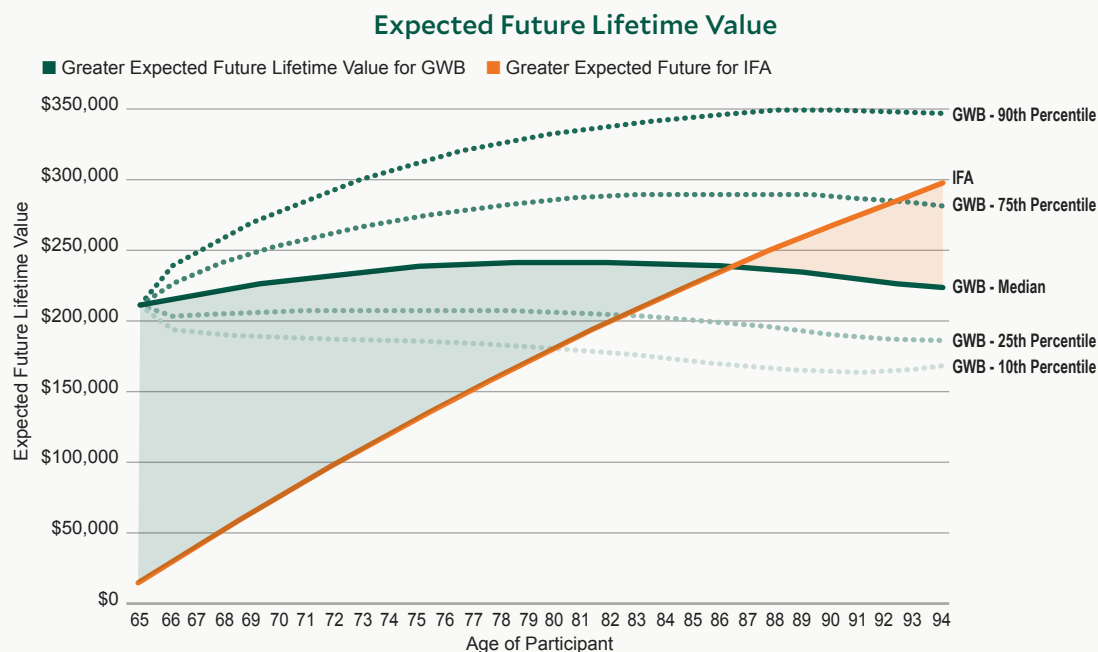
Expected Future Cumulative Income



This hypothetical situation contains assumptions that are intended for illustrative purposes only and are not representative of the performance of any security. There is no assurance similar results can be achieved, and this information should not be relied upon as a specific recommendation to buy or sell securities. Historical returns and annuity rate data were used in the simulation.

Figure 11 takes **Figure 10's** income payout and adds in the GWB account value. If **Figure 10** shows the comparatively limited importance of market returns on GWB income alone, then **Figure 11** shows the importance of annuitant lifespan and the market environment to total lifetime value.

FIGURE 11



This hypothetical situation contains assumptions that are intended for illustrative purposes only and are not representative of the performance of any security. There is no assurance similar results can be achieved, and this information should not be relied upon as a specific recommendation to buy or sell securities. Historical returns and annuity rate data were used in the simulation.

Monte Carlo Simulation assumptions for Guaranteed Withdrawal Benefit solution: Results simulated (400K) using capital market assumptions from ACI Multi-Asset Strategies' long-term forecasts. Assumptions: see page 6 for detailed simulation assumptions for GWB. Values in real (inflation-adjusted) dollars. IMPORTANT: The projections or other information generated by American Century regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual results and are not guarantees of future results. [2024 Capital Markets Assumptions | American Century](#)

Lifespan is important in **Figure 11** because one participant starts the simulation with \$200K in assets. In contrast, the participant in the immediate annuity surrendered those assets to get a higher lifetime payout. So, when trying to determine a breakeven between the two approaches, the length of that lifetime is very relevant.

We used U.S. Census Bureau data to determine what percentage of retirees will live to a given age. Roughly one in three 65-year-olds will not make it to age 80; half will not reach age 85. Only one-quarter of retirees will make it to age 90 or beyond. Of course, the financial planning problem is precisely that we cannot know in advance which cohort we belong to! However, when looked at across an entire plan, this analysis of the broad distribution of retirees, life expectancies and market outcomes can be instructive.

The green-shaded portion of **Figure 11** indicates the time and degree to which the annuitant is better off in the GWB relative to the IFA solution under different market outcomes. Simply put, the irrevocable surrender of assets puts the fixed annuitant at a disadvantage that takes decades to overcome.

For the median market outcome in our simulation, the GWB account holder is better off until age 87. Remember the mortality data — over half of retirees will not live to break even.

Roughly one in three 65-year-olds will not make it to age 80; half will not reach age 85. Only one-quarter of retirees will make it to age 90 or beyond.

Those that do, however, are better off in the IFA each year thereafter by the difference in the payout between the GWB and IFA. This is captured by the orange-shaded portion in **Figure 11**, which shows the window in which the IFA's total value exceeds that of the median GWB outcome across a 30-year horizon.

Note, too, that in the median market outcome shown here, the GWB account holder still has assets in their account. This means that bequest and liquidity goals remain viable even after 30 years.

Another thing the Monte Carlo simulation makes clear that the earlier historical analysis did not is the degree of path dependency with the GWB. On the one hand, the historical example and the best market outcomes (90th percentile) in our simulation demonstrate the tremendous value of a variable annuity in strong markets. Indeed, in those instances, the account holder received a total value well above the IFA's income. On the other hand, it's also true that the worst outcomes (25th percentile and below) resulted in the annuitant having no money left in their GWB account after 30 years. Of course, even in those unfortunate cases, the GWB's income-base guarantee meant there was little give-up in income relative to the median (as shown in **Figure 10**).

CONCLUSION: CONTROL AND MARKET OPTIONALITY VS. HIGHER IMMEDIATE INCOME

Investing and insurance are complex subjects; evaluating income solutions for retirement plans is an unenviable task. We recognize that no single solution is right for all plans and times. We hope we have provided a framework for considering the relative value propositions of the two approaches considered here. We have tried to show that the default assumption that the IFA is "better" because it pays higher immediate income is questionable at the very least.

We would argue the key takeaway is that while no one knows what markets will do, we know with certainty that one approach requires participants to surrender assets while the other does not. This distinction is crucial in solving for all the other things participants want — control, liquidity, bequest, etc. Further, historical analysis and 30 years of simulated market returns show the tremendous potential value of retaining the GWB's market optionality.

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Past performance is no guarantee of future results.

Investment return and principal value of security investments will fluctuate. The value at the time of redemption may be more or less than the original cost.

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