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# Foundations in Research for Regulatory Guidelines on the Design & Operation of Retirement Income Solutions in DC Plans

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# FOREWORD

Joint research sponsored by the Stanford Center on Longevity (SCL) and the Society of Actuaries' Committee on Post-Retirement Needs and Risks (SOA-CPRNR) concluded that it would be very desirable for defined contribution (DC) retirement plans to include an organized approach to providing retirement income with the potential to last the life of a plan participant. This research is summarized in the paper titled *The Next Evolution in Defined Contribution Retirement Plans: A Guide for DC Plan Sponsors to Implementing Retirement Income Programs*.<sup>1</sup>

Pages 21-24 of that paper briefly address a significant barrier for employers and plan sponsors to implement retirement income solutions in their defined contribution (DC) retirement plans – the lack of comprehensive safe harbor guidance from the Department of Labor (DOL) and/or Internal Revenue Service (IRS) on the design and implementation of retirement income solutions in tax-qualified retirement plans. This creates uncertainty and confusion for plan sponsors. This paper uses their recent research to describe how such safe harbor guidance could be structured to reduce uncertainty and confusion. The paper provides information on the issues for which guidance is needed, and sets forth possible alternatives for plan design elements to help plan sponsors. It also discusses and offers alternatives related to disclosures to plan participants.

The goal of this paper is to further the discussion about the design and implementation of retirement income solutions in DC plans, to encourage plan sponsors to better meet the retirement security needs of millions of workers who do not participate in defined benefit plans. This paper provides alternatives and does not recommend specific solutions. The intended audience for this paper is policymakers and government regulators and those individuals and organizations who actively participate in discussing these topics with decision-makers at the government, financial institutions, and plan sponsors. These individuals and organizations are encouraged to use the material in this paper to help inform their discussions.

Another potential audience includes DC plan sponsors who may want to proceed with implementing programs of retirement income before guidance is promulgated.

This paper is not intended to address all the significant investment, financial, and legal issues with generating retirement income from DC account balances. The recent SCL/SOA-CPRNR paper described above contains analyses and discussion on the issues plan sponsors might consider when implementing retirement income programs. It also contains a glossary that defines various retirement income solutions. Also, the SCL and SOA-CPRNR are currently collaborating on another project that is analyzing retirement income solutions that could be considered optimal according to specified criteria; this project should be published in mid to late 2014. In addition, a recent paper prepared by a task force of the American Academy of Actuaries addresses the issues of generating lifetime retirement income; the title of this paper is *Risky Business: Living Longer Without Income for Life*.<sup>2</sup>

The focus of this paper is how to structure regulatory guidance that would encourage DC plan sponsors to implement programs of retirement income. In many respects, this paper elaborates on the recommendations of a 2012 ERISA Advisory Council Report<sup>3</sup> that calls for additional regulatory guidance that would provide a regulatory framework for implementing retirement income options.

This paper is not intended to provide legal advice regarding retirement income solutions in DC plans. Plan sponsors should seek qualified legal counsel about the relevant legislative, regulatory, and fiduciary issues.

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# TABLE OF CONTENTS

I.	Executive summary.....	7
II.	Review of existing and proposed regulatory guidance .....	11
III.	Background on ERISA 404(c).....	13
IV.	Structure of safe harbor guidance on program of retirement income.....	15
V.	Three distinct core retirement income options.....	17
VI.	Details on systematic withdrawals.....	21
VII.	Details on annuities.....	23
VIII.	Qualified default retirement income alternative (QDRIA).....	25
IX.	Ability to allocate assets among retirement income generators.....	31
X.	Advice, packaged solutions, and professionally managed accounts.....	33
XI.	Communication and disclosure.....	35
XII.	Related issues.....	37
XIII.	Retirement income statements.....	39
XIV.	Examples of design and operation of retirement income menus.....	41
XV.	Summary.....	45
	Figure 1: Comparison of Forecasted <i>Expected</i> Retirement Incomes for Six Retirement Income Generators.....	47
	Figure 2: Comparison of Forecasted Retirement Incomes Under <i>Unfavorable</i> Scenario for Six Retirement Income Generators.....	47
	Figure 3: Comparison of Forecasted Retirement Incomes Under <i>Favorable</i> Scenario for Six Retirement Income Generators.....	48
	Figure 4: Comparison of Forecasted <i>Expected</i> Remaining Wealth for Six Retirement Income Generators.....	48
	Figure 5: Projections of Retirement Income and Remaining Wealth for Systematic Withdrawals, Based on Remaining Life Expectancies with IRS Required Minimum Distribution.....	49
	Appendix: Summary of assumptions for stochastic forecasts.....	50



# I: EXECUTIVE SUMMARY

Defined contribution (DC) plans such as 401(k), 403(b), and 457 plans are now the most prevalent type of plan for delivering retirement benefits in the U.S. With these plans, participants bear the responsibility for deciding how much to save and how to invest their contributions while they are working. In recent years, DC plan sponsors have implemented features in their plans that have made significant progress to address these challenges, including auto-enrollment, auto-escalation of contributions, design of the investment lineup of funds under ERISA Section 404(c), and qualified default investment alternatives (QDIA). Legislative and regulatory guidelines for these features provided significant encouragement to plan sponsors to adopt these features and are widely credited for increasing the prevalence of these features.

With DC plans, participants face another important challenge as they approach and enter retirement: turning their savings into a reliable source of retirement income. Currently the most common practice is for plan sponsors to distribute plan accounts to participants in a lump sum payment at the election of plan participants upon their termination of employment or retirement. Participants are then on their own to generate retirement income from their savings throughout their retirement, or engage a retail financial institution or financial advisor to help them with this task.

This creates a challenge for many workers who don't have sufficient financial literacy to generate retirement income strategies, which can be a complex retirement planning task. In addition, research on behavioral finance demonstrates that many people do not have the discipline necessary to develop a retirement plan and self-execute it. Lower and middle income plan participants who seek financial advice to generate retirement income may not have access to competent and unbiased financial advisors and institutions, or know how to seek such help.

Employers and plan sponsors are in a unique position to help retiring employees generate retirement income from their DC accounts:

- Large employers and/or plan administrators may have the resources to conduct the due diligence to select, implement, and communicate retirement income programs, tasks that are difficult for untrained individuals.
- Employers and/or plan administrators can significantly increase the odds that retirement solutions will be adopted if they make it easy for retiring employees to elect and implement a solution.

- Employers and plan sponsors can be the unbiased institutions that act solely on behalf of their plan participants, without regard to financial compensation that might depend on participants' elections. It's the responsibility of plan fiduciaries to act in the best interests of plan participants.
- Institutional pricing and competitive annuity bidding platforms available to employers and plan sponsors can significantly increase retirement incomes compared to retail solutions.

In summary, plan sponsors can deploy their bargaining power, scale, ability to standardize, and distribution efficiency to improve the retirement security of plan participants.

Employers and plan sponsors have benefited from safe harbor guidelines under ERISA 404(c) and for QDIAs that apply to the investment menu in the accumulation phase. If there were analogous safe harbor guidance for the design and implementation of a program of retirement income that applies during the decumulation or retirement phase, many retirement plan practitioners believe that employers and plan sponsors would be encouraged to implement such programs.

For the purpose of this paper, a "program of retirement income" in a DC plan refers to the following:

- one or more mechanisms that convert a participant's account balance into periodic retirement income,
- disclosures and communications to plan participants, to help them make an informed choice of a retirement income option, and
- administrative assistance with implementing participants' elections, including rules that participants must comply with to carry out their elections.

If a plan sponsor complies with such safe harbor guidance in the design, implementation, and disclosure of a program of retirement income, it would be protected against claims of fiduciary breach in the event that a retiree experiences unfavorable outcomes, including outliving assets, reduction in the amount of retirement income after it has commenced, and/or retirement income that does not keep pace with inflation. The safe harbor would be a defense against participants' allegations that an inappropriate form of retirement income was offered by the plan or that the plan selected the wrong specific product to implement the retirement income strategy.



Note that such safe harbor guidance would not require a plan sponsor to implement a program of retirement income; such an action would be voluntary by a plan sponsor. Also note that a plan sponsor could still offer a lump sum payment as one of the payment options.

This paper explores safe harbor guidelines for a program of retirement income that use as a template the structure and content of the safe harbor guidelines under ERISA Section 404(c) for the investment menu. As such, safe harbor guidelines for a program of retirement income could require the following:

- Offer at least three core retirement income generators (RIGs) that have distinct characteristics regarding the amount of periodic retirement income, the length of time the income is expected to be paid, access to capital, guarantees of lifetime income, and the circumstances under which the amount of income could change. Sections V, VI, and VII cover this topic. These options could be offered in the period leading up to retirement, at retirement, and after retirement.
- Designate a default retirement income solution that complies with requirements for a qualified default retirement income alternative (QDRIA), should a participant fail to make a positive election of a retirement income solution or a lump sum payment. Section VIII provides details on this feature.
- At the time the participant elects the retirement income solution, enable the participant to allocate funds freely among the RIGs offered, as described in Section IX.
- Provide sufficient disclosure to enable participants to make informed decisions to select a retirement income solution, as described in Section XI.
- The RIGs offered would be able to impose reasonable transaction and administrative fees.

The plan sponsor would still be responsible for conducting the necessary due diligence to select financial institutions, products, and services that are appropriate to implement the above features once the plan sponsor or employer has selected the design of the retirement income program, and to monitor such products and services on an ongoing basis to ensure that they continue to meet the needs of plan participants.

In a 2013 survey conducted by AonHewitt,<sup>4</sup> the top three barriers cited by employers to adding retirement income solutions were administrative complexity (54% of employers), fiduciary liability (51%), and waiting to see the market evolve (50%). The elements/components of the guidelines

suggested in this paper address the fiduciary liability issues, include retirement income solutions that are currently offered in the marketplace, and are widely available on the administrative platforms of many DC plan administrators.

The same AonHewitt survey provided evidence of increased interest by plan sponsors in retirement income options; the percentage of employers showing no interest in implementing retirement income options for their employees dropped from 57% to 27% between 2012 and 2013.

Whenever possible, the retirement income concepts discussed in this paper incorporate features from existing safe harbor guidance on the investment menu, QDIAs, and advice in DC plans, for consistency and ease of understanding and application. This creates a potential additional audience for this paper: plan sponsors who might feel comfortable relying on ERISA's prudent person rule<sup>5</sup> can use the designs and features discussed in this paper as a framework for implementing a program of retirement income in their DC plan that is consistent with existing guidance that applies to other aspects of DC plans.

This paper uses the terms "employer" and "plan sponsor" interchangeably.

## II: REVIEW OF EXISTING AND PROPOSED REGULATORY GUIDANCE

ERISA requires fiduciaries to act in the best interest of the participants and for the exclusive purpose of providing them with benefits. When making any decision affecting the design, financing, and communication of retirement plans, fiduciaries must act prudently. The courts have characterized this requirement as following a prudent decision-making process. Fiduciaries are judged more by the steps they take in making a decision and less by the ultimate outcome of their decision. Fiduciaries are expected to revisit their decisions as circumstances change, an act referred to as the “duty to monitor.”

These requirements are referred to as the “prudent person rule.” Plan sponsors could rely on the prudent person rule when designing and implementing programs of retirement income in their DC plans. In practice, however, not many plan sponsors have implemented retirement income programs, and they are uncomfortable with relying on the general prudent person rule for this purpose.

Regulatory safe harbors provide guidance that is more prescriptive than the general prudent person rule. Safe harbors tell plan sponsor fiduciaries that if they follow certain guidelines, they will be deemed to be properly carrying out their fiduciary obligations, and they will be protected from liability if a plan participant experiences unfavorable outcomes. Safe harbors provide plan sponsor fiduciaries with confidence that they are “doing the right thing.”

The Department of Labor (DOL) has previously issued final safe harbor guidelines on the selection of an insurance company and products for implementing insured retirement income products in a DC plan. The DOL has also issued final regulatory guidelines on providing advice to plan participants by outside professionals during the accumulation phase, to assist with decisions on how much money to save for retirement and how to invest these savings.

The DOL has also issued an advance notice of proposed rulemaking that describes how a plan sponsor might prepare participant statements that include estimates of the retirement income that might be generated from their balances.

The Treasury Department recently finalized regulations that would allow deferred annuities with commencement at an advanced age (known as longevity insurance or longevity annuities) to satisfy the required minimum distribution (RMD) rules that apply beginning at age 70-1/2.

While the initiatives described above are steps in the right direction, taken together they do not provide sufficient guidance that would encourage plan sponsors to implement a program of retirement income as described in this paper. For example:

- The DOL safe harbor guidance on selection of insured products focuses on the process of identifying and selecting insurance companies and their products, but these regulations don't provide guidance on whether such products are appropriate to be offered to plan participants or if disclosures to participants are sufficient to help them make an informed selection.
- There are no safe harbor guidelines for selecting and implementing uninsured retirement income solutions, such as installment payments, managed payout mutual funds, or other income solutions such as period certain payouts.
- There are no guidelines for offering retirement income solutions that annuitize just a portion of a participant's account balance while adopting a different type of solution with the remainder of savings.
- The safe harbor guidelines on professional advice use language and concepts that are most appropriate for the accumulation phase; this guidance is less clear on how it applies to the payout phase.

For plan sponsors to be encouraged to implement programs of retirement income in their DC plans, regulatory safe harbor would provide guidance on the following items:

- The overall design of a menu of retirement income options that is offered to plan participants as they approach and enter into retirement, including the minimum number and type of retirement income solutions.
- The default retirement income solution that applies if a participant does not make a positive election of a retirement income option or lump sum payment; such solution could be a combination of approaches to generating retirement income.
- Communications and disclosures that help participants make informed decisions about retirement income options.
- Administrative rules and requirements that plan sponsors are allowed to apply.

### III: BACKGROUND ON ERISA SECTION 404(C)

ERISA Section 404(c) and related regulations provide that if a qualified DC retirement plan complies with the requirements of Section 404(c), then the plan sponsor shall not be liable for potential losses to participants should they exercise control of their investments under the plan in compliance with Section 404(c). This safe harbor protection has enabled many DC plan sponsors to offer a robust menu of investment options in their retirement plans.

Note that even if a plan sponsor complies with ERISA Section 404(c), the Labor Department takes the view that the plan sponsor must still exercise appropriate due diligence in the selection and monitoring of investment options offered in their plan.

Briefly, here are the basic requirements for compliance with safe harbors under Section 404(c) for investment options in a DC plan.

- Offer at least three diversified core investments that have distinct return and risk characteristics.
- Enable participants to allocate funds freely among the investment alternatives.
- Provide sufficient information to enable participants to make informed decisions.

In addition, a plan sponsor may designate a default investment option that complies with requirements for qualified default investment alternatives (QDIA), should a participant fail to make a positive election. A plan sponsor may charge participants' accounts for reasonable expenses of carrying out investment instructions and impose reasonable administrative restrictions on a participant's ability move money between the investment alternatives.



## IV: STRUCTURE OF SAFE HARBOR GUIDANCE ON PROGRAM OF RETIREMENT INCOME

The safe harbor guidelines for a program of retirement income could be based on the structure and content of the above safe harbor guidelines under ERISA Section 404(c) for the investment menu. As such, safe harbor guidelines for a program of retirement income could require the following:

- Offer at least three core retirement income generators (RIGs) that have distinct characteristics regarding the amount of periodic retirement income, the length of time the income is expected to be paid, access to capital, guarantees of lifetime income, and the circumstances under which the amount of income could change.
- Designate a default retirement income solution that complies with requirements for a qualified default retirement income alternative (QDRIA), should a participant fail to make a positive election of a retirement income solution or a lump sum payment. It would be helpful if guidance would accommodate different objectives that plan sponsors may have for the design of a QDRIA.
- At the time the retirement income solution is elected, enable participants to allocate funds freely among the RIGs offered. Plan sponsors could decide whether to allow plan participants to elect retirement income solutions in the period leading up to retirement, at retirement, or after retirement, depending on the plan sponsor's goals for their plan participants.
- Provide sufficient disclosure to enable participants to make informed decisions to select a retirement income solution.

A plan sponsor would be able to impose reasonable transaction and administrative fees for the RIGs offered. These fees could vary for a specific RIG depending on the expenses needed to administer a specific RIG. In addition, a plan sponsor could impose reasonable administrative rules and restrictions on a participant's ability to move money between RIGs after retirement income has started, including identifying acceptable circumstances when a decision is irrevocable.

For this paper, the term "retirement income generator" (RIG) refers to a stand-alone application of one of the above methods of generating retirement income. The term "retirement income solution" can include a packaged strategy that might combine two or more RIGs, such as applying a portion of savings to a systematic withdrawal method and a portion of savings to an annuity or period certain payout. Each of the features listed above is covered below in separate sections.





# V: THREE DISTINCT CORE RETIREMENT INCOME OPTIONS

Here are three general methods for generating retirement income from savings that have distinct characteristics regarding the amount of periodic retirement income, the length of time the income is expected to be paid, access to savings, guarantees of lifetime income, and the circumstances under which the amount of income could change:

1. *Systematic withdrawals*: Invest assets and draw down the principal and investment earnings with a formal method intended – though not guaranteed – to make the money last for life.
2. *Annuities*: Transfer savings to an insurance company that guarantees a lifetime retirement income. Note that some insurance company products provide this guarantee but do not use the name “annuity” in their disclosures and marketing materials.
3. *Period certain payouts*: Invest assets and make periodic payments over a fixed period, after which the assets devoted to this solution are exhausted and payments stop.

Within the first two categories of RIGs, there are many variations, as shown below:

- *Systematic withdrawals*: self-managed through in-plan installment payment feature, professionally managed account, or managed payout fund. Common withdrawal strategies include constant dollar amount (with or without adjustment for inflation), endowment method (constant percentage of assets), and life expectancy method (withdrawals spread over remaining life expectancy). Another variation is to pay out only interest and dividends, without withdrawing principal.
- *Annuities*: immediate fixed income annuity (otherwise known as single premium immediate annuity or SPIA), immediate variable income annuity, immediate inflation-adjusted income annuity, deferred fixed income annuity, deferred variable income annuity, longevity insurance (deferred annuity starting at an advanced age), and guaranteed lifetime withdrawal benefit (GLWB – may also be called a guaranteed minimum withdrawal benefit, or GMWB).
- *Period certain payouts*: The most common variation is the length of the payment period.

Here are the distinct goals and circumstances that each of these RIG categories meet, along with their associated risks:

- *Systematic withdrawals* are typically preferred if the most important goals are flexibility, access to savings, possibility for a legacy with unused funds, and the potential for increase in retirement income if investment performance is favorable. The risk is that savings can be depleted if the retiree experiences poor investment performance and/or lives well beyond life expectancies. Another risk is that participants may lack financial discipline and spend savings too rapidly.
- *Annuities* are typically preferred if the most important goals are the guarantee of lifetime retirement income and protection from investment losses. Annuities often provide higher initial retirement income than systematic withdrawals, due to the pooling of longevity risk. The risk is that with many annuities, the retiree does not have access to savings, there is no potential for a legacy with unused funds, and retirement income isn't increased by favorable investment performance. Fixed income annuities are subject to the risk of inflation, unless they provide an inflation adjustment. Annuities are also subject to the solvency risk of the issuing insurance company, although they may be backed by state guaranty associations.
- *Period certain payouts* could be used to enable delaying Social Security benefits in order to optimize the value of these benefits, or to generate income until an age at which another source of retirement income starts, such as a deferred income or longevity annuity. The risk would be if there is no arrangement for retirement income to continue after the certain period has elapsed, and the participant is not aware that the retirement income stops at that time.

Plan sponsors could allow participants to elect guaranteed retirement income options in the period leading up to retirement, to give participants the ability to protect their retirement income as they approach retirement. Also, plan sponsors could allow participants to change their elections after retirement as their circumstances and goals change; one example would be if the participant wants the flexibility of systematic withdrawals to generate retirement income in the years immediately following retirement, but after several years in retirement would like the lifetime guarantee of an annuity.

The recent paper prepared by the SCL and SOA-CPRNR<sup>1</sup> provides definitions and details on the variations of RIGs mentioned above. This report also contains stochastic forecasts of various RIGs that demonstrate the various RIGs produce significantly different amounts of retirement income initially at retirement and amounts expected throughout retirement, as shown in Figure 1. Appendix A shows the assumptions that were used to generate the stochastic forecasts.

Figure 1 shows projections of the amount of retirement income that could be generated throughout a 30-year retirement by a 65 year-old couple with \$100,000 in retirement savings. The highest initial amount of annual retirement income is \$5,490 for a 100% joint and survivor fixed SPIA, while the lowest amount of income is \$3,500 for a systematic withdrawal method based on the IRS required minimum distribution (RMD). After 15 years, the amount of income (expressed in today's dollars, adjusted for inflation since retirement) ranges from \$2,918, provided by a systematic withdrawal method, to \$4,158, provided by an immediate fixed SPIA. By 30 years, the highest amount of real retirement income is provided by an inflation-adjusted systematic withdrawal method.

This report also shows that the RIGs behave differently throughout retirement under different economic scenarios. In general, annuities provide higher amounts of retirement income when investment conditions are unfavorable, as shown in Figure 2. Systematic withdrawals provide higher amounts of retirement income compared to annuities when investment conditions are favorable, as shown in Figure 3.

Annuities and systematic withdrawals have distinctively different properties regarding the amount of wealth that is accessible during retirement and after the RIG has been deployed to generate retirement income, as shown in Figure 4. All systematic withdrawal methods and certain period payouts allow access to wealth during retirement, and most, if not all, GLWB products also offer this access. The amount of accessible wealth at each age depends on the fees applied and the amounts of savings that have previously been withdrawn to generate retirement income. Most traditional annuities do not allow access to funds once the monthly benefit has started. Recognize that if funds are withdrawn from any RIG, they are no longer available to generate retirement income.

Page 29 of the SCL/SOA-CPRNR paper also discusses the research that supports the use of a period certain payout to enable delaying Social Security benefits, in order to optimize the value of these benefits. Such a strategy has the potential to increase the guaranteed lifetime payout that a plan participant receives, considering the combination of Social Security benefits and payouts from the DC plan.

Pages 53-54 of the SCL/SOA-CPRNR paper contain analyses that demonstrate the potential to increase retirement income by 10% to 20% through the use of institutional pricing available to plan sponsors and a competitive annuity bidding platform, compared to common retail pricing.

The SCL/SOA-CPRNR paper demonstrates that there's no "one size fits all" RIG. Retirees will experience different circumstances in these areas:

- Tolerance for risk regarding expected investment returns and inflation, depending in part on other sources of retirement income as well as the amounts of their nondiscretionary and discretionary living expenses.
- Degrees of optimism or pessimism about the economy.
- Life expectancies based on their family history and lifestyle.
- The self-discipline required to manage a systematic withdrawal approach.
- Other sources of financial security in retirement, such as employment income or home equity.

To accommodate the above different circumstances, safe harbor guidelines could require a plan sponsor to offer at least one retirement income generator from each of the above three categories of RIGs. Upon retirement, participants could be free to devote all of their savings to one RIG or make partial allocations among two or more RIGs. Two or more RIGs could be packaged into retirement income solutions that meet specified goals (packaged solutions are covered further in a subsequent section).

Most DC administrators can implement at least one form of each of the three RIGs mentioned in this paper. For example, installment payment features that can accommodate systematic withdrawals and period certain payouts are available on the administrative platforms of most DC administrators. In addition, there are annuity bidding services that operate through an IRA rollover and can offer simple fixed or inflation-adjusted immediate annuities. In this case, the only administrative requirement to implement an annuity is the ability to facilitate an IRA rollover, which most DC administrators can accommodate.

Plan sponsors should be free to adopt RIGs with more extensive administrative requirements and/or higher administrative costs to meet the needs of their plan participants, such as in-plan annuities, hybrid annuities such as GLWB products, or solutions that combine systematic withdrawals and annuities. However, most DC administrators could implement the simplest versions of each of the three RIGs described above.

## VI: DETAILS ON SYSTEMATIC WITHDRAWALS

With respect to systematic withdrawals, safe harbor guidelines could require the use of a formal method to calculate the amount of periodic retirement income that has a reasonable chance that income could be generated for a participant's life. However, there is no guarantee that a participant's assets would last for life if the participant experiences poor investment returns and/or lives for a long time, or if the participant lacks the discipline to stick with the chosen strategy and makes unplanned withdrawals.

Certain withdrawal methods could be deemed to comply with safe harbor guidance, such as:

- An endowment method that applies a percentage periodically to remaining assets, no less frequently than annually. Limits could be placed on the percentage to improve the odds that a significant amount of income will last for life, such as four or five percent.
- A life expectancy method, where the amount of income is spread over a participant's remaining lifetime and is recalculated periodically, no less frequently than annually. The IRS RMD is one such method, using a life expectancy table specified in IRS regulations.
- A constant amount method, where a fixed dollar amount is withdrawn until assets are exhausted or the participant dies. Limits could be placed on the amount of income to improve the odds that the income lasts for life, such as four or five percent of assets at the time the RIG is deployed.

Note that as a practical matter, it would be acceptable that the IRS RMD amount override the amount of income that the systematic withdrawal method would ordinarily deliver.

After the retirement income has commenced, participants would be allowed to make a new positive election that applies to remaining assets, either with a new RIG, by reapplying the percentage under endowment method, or determining a new fixed dollar amount under a constant amount method. A plan sponsor should be allowed to place reasonable limits on the frequency of such changes, such as no more frequently than quarterly.

Note that these safe harbor guidelines would apply to the design, communication, and administration of systematic withdrawal methods to generate retirement income for participants. With regard to the selection of specific investments, fiduciaries would still need to comply with the prudent person rule or existing safe harbor guidance on the investment menu and QDIAs.



## VII: DETAILS ON ANNUITIES

With respect to annuities, the most important requirement is that an insurance company guarantees that the retirement income is paid for the rest of participant's life and their spouse or partner, if applicable, no matter how long they live.

Safe harbor guidelines could identify specified types of annuities to be acceptable, such as:

- Immediate single life annuity (also known as single premium immediate annuity, or SPIA)
- Immediate joint and survivor annuity
- Immediate life annuity with period certain
- Immediate inflation-adjusted annuity
- Immediate or deferred GLWB
- Immediate or deferred variable annuity
- Deferred fixed annuity that is purchased before a participant retires
- Rollover to a defined benefit plan that is maintained by the plan sponsor

Reasonable restrictions would be allowed, such as the irrevocable nature of an annuity election, and the lack of access to funds once retirement income has commenced. Note that lack of access to funds is generally not an issue with a GLWB product.

Safe harbor guidelines could also allow deferred annuities to be purchased in the period leading up to retirement, so that participants can protect their retirement income from capital market volatility as they approach retirement. It also would be desirable to allow annuities to be purchased in phases after retirement, to allow flexibility for plan participants to gradually phase out of the workforce.

Note that if annuities are offered within the plan, they are required to charge the same amount for males and females (unisex pricing). If annuities are offered through an IRA rollover to an annuity bidding platform outside the plan, sex-distinct pricing is allowed and typically used. It would be desirable if safe harbor guidelines spell out acceptable practices.

Note that these safe harbor guidelines would apply to the design, communication and administration of annuity products that generate retirement income for participants. With regard to the selection of an insurance company, fiduciaries would still need to comply with the prudent person rule or existing safe harbor guidance on the selection of an insured product.





# VIII. QUALIFIED DEFAULT RETIREMENT INCOME ALTERNATIVE (QDRIA)

This section describes two possible approaches that a plan sponsor could adopt with respect to the default retirement income alternative for a participant who does not make a positive election for a retirement income solution or a lump sum payment:

1. Plan sponsor prefers that a participant makes a positive election and the design of the QDRIA reflects this preference, or
2. Guiding design - the QDRIA represents an option that the plan sponsor, plan administrator or plan consultant deems might work best for most participants.

Safe harbor guidelines needed to support each approach could be different, as discussed below.

## **Approach #1: Plan sponsor prefers a positive election**

The first approach is to take the position that it is desirable for a plan sponsor to obtain from a retiring participant a positive, informed election regarding a retirement income solution, due to the importance and complexity of this decision. The plan sponsor might not want to attempt to guide participants to a particular RIG through choice architecture and communications. In this case, there is already a de facto default that could apply: the required minimum distribution (RMD) required by the IRS, which is a systematic withdrawal method where the income starts by the April 1st following the year a participant attains age 70-1/2. The amount of annual retirement income is defined as the remaining assets at the beginning of the calendar year divided by the participant's life expectancy, as defined in IRS regulations.

A qualified default retirement income alternative (QDRIA) could be designated as the RMD combined with a plan's qualified default investment alternative (QDIA) that the plan would normally apply for a retiree. This QDRIA-RMD has several positive features:

- It's flexible. At any time, any remaining funds can be deployed by a positive election from a retired participant. Participants could also make a positive election to invest in a fund other than the QDIA.
- The RMD may force participants to pay attention to the issue of retirement income generation and make a positive election, because it delays the start of payment until age 70-1/2.

- It delays taxation to the individual as long as possible.
- It leaves money in the plan as long as possible, giving the plan the potential to reduce expense charges.
- Payments are intended to be made over a participant's lifetime, although there is no guarantee that participants will generate sufficient retirement income if they live a long time and/or experience poor investment performance.
- The Internal Revenue Code and related regulations provide specific descriptions on how the RMD is applied and calculated.
- Most DC plan administrators can calculate and pay the RMD amount to participants, provided they know the date of birth of the plan participant (and under certain circumstances, the date of birth of the participant's spouse).

The SCL/SOA-CPRNR paper includes a stochastic projection of real retirement incomes and remaining wealth under the RMD. This projection shows relatively level amounts of real retirement income expected to be paid over a 30-year period, but with substantial variance in retirement income amounts if investment experience is favorable or unfavorable. Assets are not projected to be exhausted over a 30-year retirement, even under the most unfavorable economic scenarios. Figure 5 shows the projections from the SCL/SOA-CPRNR paper for a 65-year old married couple with \$100,000 in retirement savings.

The risk with the RMD from the perspective of plan participants is that the amount of retirement income can decrease if investment performance is unfavorable and/or the participant lives a long time. As such, it may not best meet the needs of a plan sponsor's retired workforce.

A risk from the plan sponsor's perspective is that some participants may view the default option as recommended by the plan sponsor, even if that is an unintended result and there is no evidence of such a recommendation in the communications and disclosures offered by the plan sponsor. Another possibility is that simple inertia and inaction by plan participants may result in significant deployment of the default retirement income option. Nevertheless, offering the RMD as a QDRIA may better meet the needs of many plan participants, compared to providing no retirement income solutions in a plan.

If this first approach to a default is desirable, then the only safe harbor guidance that is needed

would be to specify that the RMD in combination with the plan's QDIA for retirees could be deemed as a QDRIA.

### **Approach #2: Guiding design**

Research in behavioral finance supports the phenomenon that many people allow default options to become effective, for a number of reasons: inertia, the default viewed by participants as the option recommended by the plan sponsor, and/or the default viewed as communicating social norms – the retirement income option that participants normally elect. Some plan sponsors may want to acknowledge and utilize the power of a default option. Since they must specify a default election, they might as well design the default to meet the needs of as many plan participants as possible. The plan sponsor would carefully design the default, using their knowledge of the circumstances and financial literacy of their plan participants and the RIGs that are practical to be implemented by the DC administrator.

In this situation, plan sponsors would want guidance for the circumstances and considerations for deeming a specific RIG or combination of RIGs as a QDRIA.

Here's a summary of the existing regulatory requirements for QDIAs, to determine if they can serve as a template for safe harbor requirements for QDRIAs. The DOL has approved the following four types of QDIAs:

1. A solution that combines different types of investments and takes into account the participant's age or retirement date. A lifecycle or target date fund is one example.
2. An investment service that allocates assets among the plan's existing funds to consider a participant's age or retirement date. A professionally managed account is one example.
3. A solution that combines different types of investments and takes into account the characteristics of participants as a whole. A balanced fund is one example.
4. A solution that preserves capital, only for the first 120 days of participation. A stable asset fund is one example.

In addition, a QDIA must meet the following criteria:

- The participant must be a participant in the plan, either by making a positive election to contribute, being defaulted into participation, or having account balances in the plan.

- The participant must have been given an opportunity to provide positive investment direction, but has not provided such direction.
- A notice must have been given to a participant, generally 30 days prior to the first investment in the QDIA and 30 days prior to each plan year thereafter.
- Investment prospectuses and other communication notices about the QDIA and other investment options in the plan must be provided to participants.
- Participants must be able to direct investments out of the QDIA at least as frequently as with other investment options in the plan, but at least quarterly.
- The plan may not impose penalties or restrict the ability of the participant to transfer savings from the QDIA to any other investment alternative in the plan.
- The plan must offer a broad range of investment alternatives in compliance with ERISA Section 404(c).

If these safe harbor requirements for QDIAs were used as a template for a QDRIA, the following concepts might apply:

- The DOL would approve a limited number of QDRIsAs.
- The participant must be a bona fide retiree, having given notice of termination of employment and making a positive election of a retirement income commencement date. If a participant does not elect a date for retirement income commencement, benefits will be delayed until distributions are required under the RMD rules. The participant must be given the ability to make a positive election of a retirement income generator or a lump sum payment, but has not made such an election.
- A QDIA can mix equity and fixed income investments; as such, it is acceptable if the value of a QDIA decreases when capital markets perform poorly. In fact, a fund that met the safe harbor requirements for a QDIA could have decreased by 20 percent or more during the 2008-2009 downturn. The analogous result for retirement income is that it would be acceptable for the amount of retirement income to decrease under a QDRIA if capital markets perform poorly and/or a participant lives a long time.

- A QDRIA could be either a solution imbedded in the plan or a professionally managed account.
- Participants must be given communications and prospectuses about the QDRIA, and they must receive an advance notice before retirement income commences.
- A plan would not impose penalties or restrict the ability of a participant to transfer remaining funds to another RIG or combination of RIGs offered by the plan. Note that such a requirement would prohibit use of irrevocable lifetime annuities as a QDRIA.
- A plan would offer a range of retirement income alternatives as discussed in the previous section of this paper, including offering three core RIGs.

Here are examples of RIGs that are currently available on the platform of many plan administrators and would satisfy these requirements:

- An installment payment feature that implements a systematic withdrawal method using the RMD rules for determining the amount of periodic retirement income, combined with the QDIA that is appropriate for retirees. If the retirement income commencement date is before the participant attains age 70-1/2, the amount of retirement income is determined using a method consistent with the RMD requirements (income is spread over a participant's remaining lifetime even if it commences before age 70-1/2).
- An installment payment feature that delivers an amount of retirement income calculated according to a method that is intended (although not guaranteed) to deliver retirement income over a participant's lifetime, and is the greater of the amount under the intended method or the RMD requirements. For example, the retirement income could be designated as four percent of remaining assets at the beginning of each plan year, or the RMD amount if greater.
- A guaranteed lifetime withdrawal benefit (GLWB) that guarantees retirement income payable for life but also permits remaining assets to be withdrawn.

A less restrictive approach for safe harbor guidance on QDRIsAs would allow a plan sponsor to designate a RIG or packaged solution as a QDRIA that has all of the features listed previously except the ability to transfer remaining funds to another RIG after retirement income has commenced. This would give plan sponsors the freedom to use their judgment to designate a QDRIA that best meets

the needs of the most of their plan participants. In this case, the DOL would include on the list of approved QDRAs irrevocable immediate or deferred annuities, or such an annuity that is packaged with a systematic withdrawal method as discussed in the next section of this paper.

Another possibility could be to allow as a QDRA an annuity that allows withdrawals during a “trial period,” after which the annuity becomes irrevocable. For example, a participant could cancel an annuity within 5 years of benefits commencement and deploy remaining assets to other RIGs or a lump sum payment. With such an arrangement, if the participant does not cancel the annuity, after 5 years the annuity would become irrevocable. Notices could be required in the period leading up to the date the annuity becomes irrevocable.

Note that it is anticipated that a plan could offer RIGs that are not designated as a QDRA as part of their menu of RIGs that deliver three distinct retirement income alternatives. For example, it is possible that irrevocable immediate or deferred annuities or period certain payouts could be offered in the plan, but that the plan sponsor wouldn’t designate them as the QDRA for the plan.

Note also that a plan sponsor must still conduct appropriate due diligence in the selection of a QDRA or any other RIG, taking into account such factors as fees and costs, expected amounts of retirement income, the circumstances under which the retirement income might increase or decrease, support with communications and/or administration, and whether the income includes a lifetime guarantee.

## IX. ABILITY TO ALLOCATE ASSETS AMONG RETIREMENT INCOME GENERATORS

To comply with safe harbor requirements for a program of retirement income, participants would be allowed to allocate portions of their accounts to two or more RIGs, or elect that all of their account be allocated to one RIG. A plan administrator should be able to impose minimum amounts that can be devoted to a specific RIG, to prevent de minimis amounts being deployed with resulting administrative costs that are disproportionate to expected benefits. One possibility could be that amounts devoted to one specific RIG must at least equal the threshold for involuntary cash-outs in a qualified plan (\$5,000), or, if greater, minimum amounts required by the applicable financial institution.

In addition, a plan sponsor could place restrictions on the frequency that a plan participant is allowed to change their election regarding the deployment of remaining assets to generate retirement income. For example, it could be reasonable to require that such changes can be made no more frequently than quarterly.





## X. ADVICE, PACKAGED SOLUTIONS, AND PROFESSIONALLY MANAGED ACCOUNTS

It would be helpful if a plan sponsor could offer packaged retirement income solutions that meet specified goals and objectives, using combinations of basic RIGs offered in the plan. Similarly, a plan sponsor may want to offer a professional advice service that uses a managed approach to delivering retirement income, considering a participant's goals and circumstances and using combinations of the basic RIGs offered in the plan. Such packaged solutions or managed accounts might or might not be designated as a QDRIA.

Examples of packaged solutions include, but are not limited to:

- A portion of savings devoted to generating retirement income under a systematic withdrawal method until a specified age, for example age 80 or 85, with another portion of assets purchasing a deferred annuity that delivers retirement income after such age.
- A portion of savings devoted to generating retirement income under a systematic withdrawal method, to allow a participant to have access to that portion of savings and the potential for growth from favorable capital market performance, but with no guarantee of lifetime income, along with another portion of savings devoted to an irrevocable annuity that guarantees a fixed or inflation-adjusted amount of income payable for life.
- Phased annuity purchase, where assets are invested and a schedule is specified for converting a portion of invested assets to annuities at periodic intervals.
- A portion of assets devoted to a period certain payout that pays a retirement income approximately equal to the expected Social Security income amounts for a temporary period, to enable delaying Social Security benefits to optimize their value, with any remaining assets devoted to another RIG or combination of RIGs.

A fair amount of survey data and research on behavioral finance shows that many people would like some form of guaranteed, lifetime retirement income, but they don't want to apply all of their retirement savings to an annuity provided by an insurance company. This provides some justification for approaches that package annuities and systematic withdrawals.

Once again, existing regulatory guidelines for professionally managed accounts and advice that apply to the accumulation phase can provide a template for safe harbor guidelines in the retirement phase. For advice, professionally managed accounts, or packaged solutions to be offered in a DC plans, one of the following features must apply:

- the advice provided or packaged solution does not impact the amount of compensation paid to the advisor or financial institution (fee-leveling requirement), or
- a computer model that is based on investment and economic principles develops the advice or recommended options.

If these concepts were applied to the payout phase, the following models could apply:

- A fee-leveling requirement could require that advisors are paid on a fixed-fee or flat-fee basis, instead of using a fee calculated as a percentage of assets, a common practice for advice provided in the accumulation phase. The reason is that election of certain types of annuities could remove assets under management by advisors, resulting in less compensation paid to advisors. This could incent them to recommend systematic withdrawals to generate retirement income and avoid certain types of annuities. This issue doesn't apply in the accumulation phase, since the advisor is limited to allocating a participant's savings among the assets currently offered in the plan.
- There are several robust computer models and methodologies that could be applied in the payout phase, such as stochastic modeling, efficient frontier analyses, and periodic actuarial valuations of withdrawal amounts that can be withdrawn from savings. All of these methods could be adjusted periodically to reflect a retired participant's remaining assets, given prior investment experience.

Developing and implementing packaged retirement income solutions as described in this section may be beyond the capabilities of many plan participants, but they might appreciate the features and flexibility of packaged solutions. They may prefer that such packaged solutions are developed and implemented by the plan sponsor, the plan sponsor's consultant, and/or a professional advisor.

## XI. COMMUNICATION AND DISCLOSURE

To enable a participant to make an informed choice regarding a RIG, QDRIA, or packaged solution, safe harbor guidelines could require minimum disclosures regarding each RIG or retirement income solution that is offered by the plan:

- An estimate of the amount of retirement income reasonably expected to be generated from the retirement income solution at the participant's retirement date.
- Whether or not the retirement income is guaranteed for the life of the participant and spouse or partner, if applicable. For example, provide a statement that "this retirement income generator guarantees (or, does not guarantee) that your income is payable for the rest of your life, no matter how long you live."
- Whether or not the retirement income has the potential to increase in the future, due to favorable investment performance or contractual provisions such as a cost-of-living adjustment or automatic increase. For example, provide a statement that "this retirement income generator produces a retirement income that has the potential to increase in the future under the following conditions ... (or, that is fixed in dollar amount and will not increase in the future)."
- Whether or not the retirement income can decrease in the future, due to unfavorable investment performance or the participant living beyond life expectancies. For example, provide a statement that "this retirement income generator produces a retirement income that has the potential to decrease in the future under the following conditions ... (or, is guaranteed not to decrease in the future)."
- Whether or not the participant has the ability to withdraw remaining accounts after the retirement income has commenced. Said another way, is the decision to deploy a RIG irrevocable? For example, provide a statement that "with this retirement income generator, you can (or, cannot) change your mind and withdraw remaining funds."
- Whether or not remaining funds that are unused at death are available to designated beneficiaries. For example, provide a statement that "with this retirement income generator, funds that are unused upon your death will be available (or, will not be available) to your heirs."
- If the amount of retirement income is subject to the risk of default of a financial institution. For example, provide a statement that "with this retirement income generator, if the (name of

underlying financial institution) goes bankrupt, you will lose (or, will not lose) your ability to receive future retirement income payments.”

Any factors that are relevant to the above disclosures may be elaborated in footnotes to the above minimum disclosures, such as the circumstances that result in actual amounts of income differing from estimated amounts, fees, identification of conditions that could cause retirement income to increase, decrease, or cease after the income has commenced, and any rules or restrictions that may apply.

## XII. RELATED ISSUES

Beyond the scope of this paper are two important two issues related to generating income from DC plans that this paper does not cover:

- If and when spousal consent is needed for the election of a retirement income solution.
- The appropriate actions to be taken when a participant cannot be located.

These are important issues that DC plan sponsors must address, and would benefit from regulatory guidance.



## XIII. RETIREMENT INCOME STATEMENTS

The DOL is currently considering regulations that would provide guidelines for how a DC plan sponsor could provide account statements to participants that show estimates of the amount of retirement income that can be generated from savings. Presumably such statements would help participants with planning their retirement income, including learning how much retirement income their savings might generate, which in turn helps them decide when they can afford to retire.

An important issue with these proposed regulations is the method that is used to convert savings into the estimated amount of retirement income. For preparing these retirement income statements, the plan sponsor or plan administrator should be permitted to use one or more RIGs offered in their plan, including the QDRIA and/or other packaged solutions.

It would be particularly useful if safe harbor guidelines offered plan sponsors the discretion to design these statements to best meet the needs of their plan participants and their circumstances. One such example could be if the retirement income statement showed estimates of the lowest and highest amounts of retirement income under RIGs offered by the plan, and/or estimates of income under the QDRIA, the retirement income solution that is most commonly elected by retiring plan participants, and/or the solution that is recommended by the plan's consultant. Safe harbor guidelines should provide assurance that the plan sponsor has met both disclosure and fiduciary obligations.





# XIV. EXAMPLES OF DESIGN AND OPERATION OF RETIREMENT INCOME MENUS

The following examples are intended to illustrate the concepts described in this paper. They are not intended to demonstrate all possibilities or all details of retirement income programs that could comply with safe harbor guidelines, or all the possible goals that a plan sponsor may wish to address for their plan participants.

The first example is for a simple retirement income menu, while the second and third examples illustrate more robust solutions with higher demands on administrative and communication capabilities.

## **Example #1: Simple retirement income menu**

This design could apply for employers who want a retirement income menu that places minimal demands on the plan administrator, is relatively straightforward to communicate to plan participants, and does not require extensive analysis by plan fiduciaries. In this example, the plan sponsor wishes to incent positive elections and uses the IRS RMD as the QDRIA.

Three distinct core retirement income generators:

1. Installment payment feature in the plan, using investment funds in the plan as selected by the retiree. If the retiree does not make a positive investment election, the plan's QDIA will apply. The annual amount of periodic retirement income equals the IRS RMD applied to the retirement savings that use this RIG, paid monthly. The same method and life expectancy tables apply if retirement income commences before age 70-1/2 (the age when the RMD is required to apply). The retiree could also elect to withdraw a fixed dollar amount, or specify that a fixed percentage is applied to remaining assets to determine the withdrawal amount. In this case, once the retiree attains age 70-1/2, the actual amount of retirement income would equal the greater of the withdrawal amount elected or the IRS RMD.
2. Rollover to an IRA that uses a competitive annuity bidding platform to select and implement a lifetime annuity. Annuities that are available are life only, joint and survivor, and life with period certain. Both fixed and inflation-adjusted annuities would be allowed. These annuities are irrevocable once the income starts.

3. Period certain annuity for periods of one through 20 years, using investment funds in the plan as selected by the retiree. If the participant does not make a positive investment election, funds are invested in a fund with the goal to preserve principal.

Qualified default retirement income alternative (QDRIA): If the employee does not make a positive election regarding retirement income, the retirement income starts at age 70-1/2, and is determined by the IRS RMD. Funds are invested in the plan's QDIA that apply to retirees and would override any prior investment election.

Upon the commencement of retirement income, employees can elect to allocate whole percentages of their retirement savings to any of the three core RIGs, provided the percentages add to 100.

Packaged solutions:

- Combinations of systematic withdrawals and annuities, in proportions of 25/75, 50/50, and 75/25 percent.
- Devote sufficient assets to a period certain payout to enable delaying Social Security benefits, with the remainder of assets devoted to a packaged solution defined above. The plan participant would need to specify the amount of annual income that would be devoted to the period certain payout.

Participants would be allowed to devise their own combinations of the above RIGs.

After retirement income has commenced, participants could elect to change their method of generating income with assets remaining under the systematic withdrawal method or period certain payout, no more frequently than quarterly. Changes would not be allowed with assets devoted to an annuity.

### **Example #2: Enhanced retirement income menu with longevity insurance**

In this case, the plan sponsor uses guiding design principles to designate the QDRIA as the option that might work best for most participants.

This retirement income menu has the same features as described above, including the packaged solutions, except that the annuity bidding platform also contains the ability to purchase a deferred annuity that commences at age 85 (also known as longevity insurance).

The QDRIA would devote a portion of assets to the deferred annuity that begins at age 85, with the remainder of assets devoted to a period certain payout that pays retirement income until age 85. This package is designed such that the annual amount of retirement income is approximately the same before and after age 85, adjusting for expected inflation throughout retirement. The QDRIA would specify the investment fund that is used for the period certain payout.

**Example #3: Enhanced retirement income menu with GLWB**

In this case, the plan sponsor uses guiding design principles to designate the QDRIA as the option that might work best for most participants.

This retirement income menu has the same features as described above, including the packaged solutions, except that the instead of an annuity bidding platform for fixed annuities, the plan offers a GLWB product that provides a lifetime guarantee of income, together with access to remaining funds.

The plan would specify the GLWB product as the QDRIA.



## XV. SUMMARY

Defined contribution retirement plan sponsors can significantly improve the retirement security of millions of American workers by offering programs of retirement income in their plans. DC plan sponsors would be encouraged to implement programs of retirement income in their plans if safe harbor guidelines were issued that utilize the design and disclosure concepts described in this paper. These safe harbor guidelines have the goal of reducing uncertainty and confusion among plan sponsors, while placing the retirement security of plan participants as the top priority. They are not intended to favor one particular product or solution, or one type of financial institution.

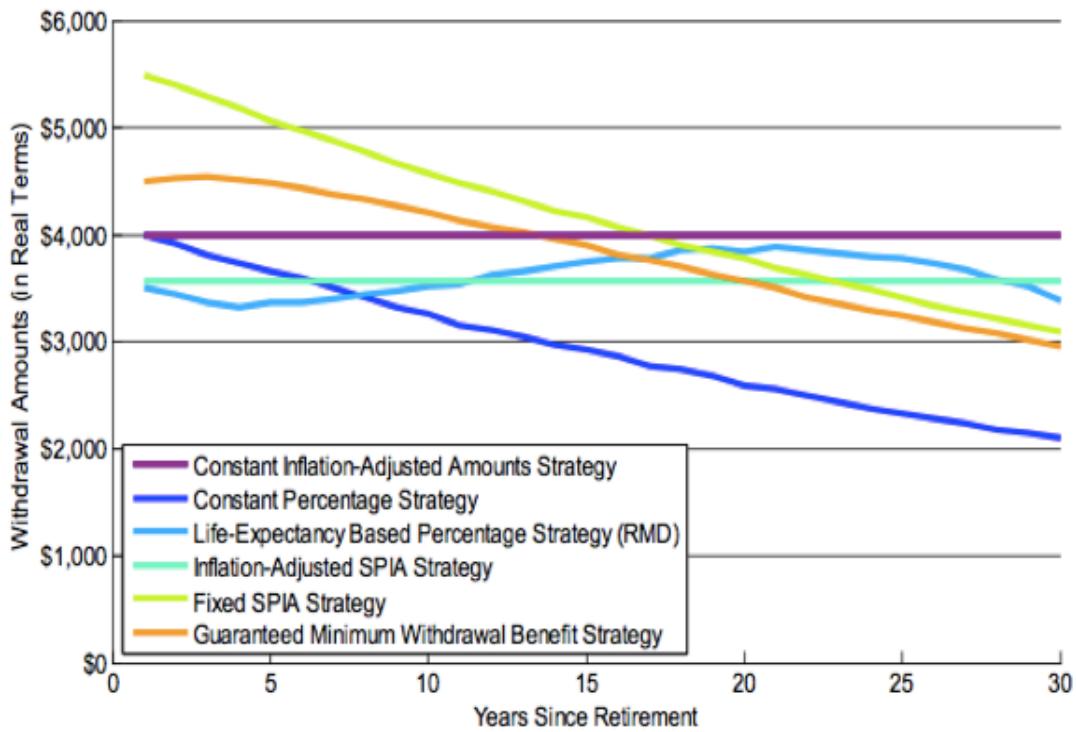
The safe harbor guidelines described in this paper would give plan sponsors protection from liability should plan participants exercise control of their accounts to generate retirement income from their account balances and experience unfavorable outcomes, such as outliving assets, a decline in the amount of retirement income, or income not keeping pace with inflation. Plan sponsors would also be protected if a participant alleges that the retirement income solutions offered by the plan are not appropriate. Plan sponsors must still conduct the appropriate due diligence to select specific products, services, and financial institutions that are appropriate to implement the retirement income program that the plan sponsor has designed.

Similar safe harbor guidelines that apply to the accumulation phase have resulted in substantial improvements with increasing participation and contribution amounts in DC plans, and it is hoped that analogous safe harbor guidelines in the retirement phase will have similar beneficial results.

# CITATIONS

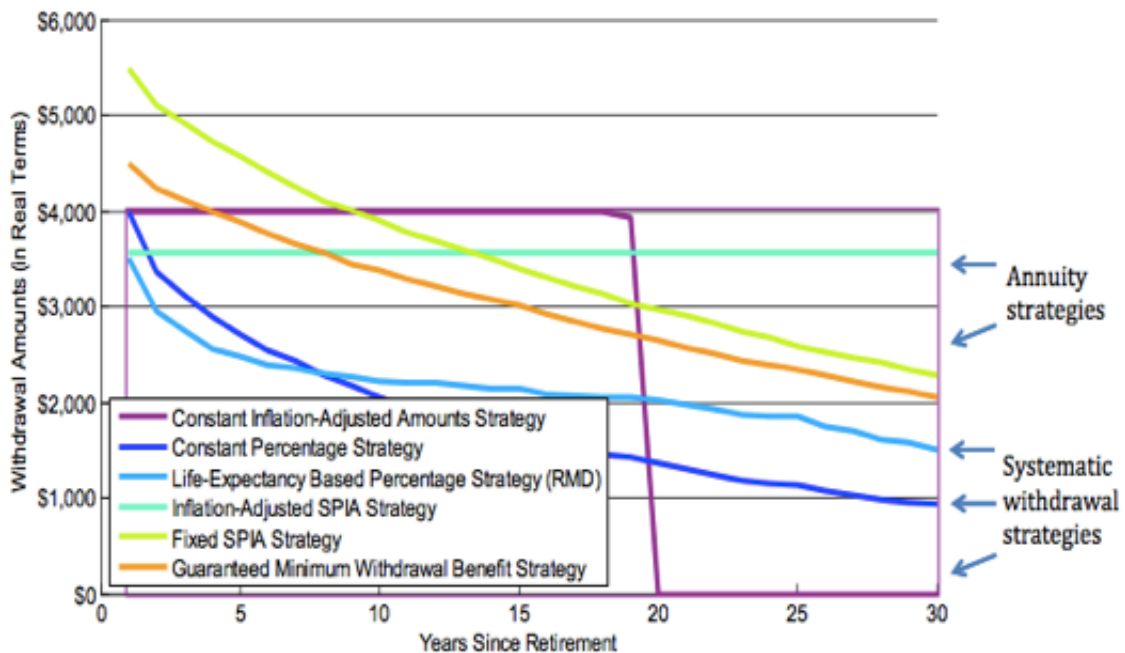
1. *The Next Evolution in Defined Contribution Retirement Plan Design A Guide for DC Plan Sponsors to Implementing Retirement Income Programs*, 2013, by Steve Vernon, FSA, Consulting Research Scholar, Stanford Center on Longevity, and the Society of Actuaries' Committee on Post-Retirement Needs and Risks.
2. *Risky Business: Living Longer Without Income for Life*, June 2013, by the Lifetime Income Risk Joint Task Force of the American Academy of Actuaries.
3. *Examining Income Replacement During Retirement Years In a Defined Contribution Plan System*, 2012, ERISA Advisory Council.
4. *2013 Hot Topics in Retirement*, AonHewitt.
5. ERISA, as amended, requires fiduciaries to act in the best interest of the participants and for the exclusive purpose of providing them with benefits. In so doing, fiduciaries must act prudently, which the courts have characterized as requiring fiduciaries to engage in a prudent decision-making process.

Figure 1. Comparison of Forecasted *Expected* Retirement Incomes for Six Retirement Income Generators



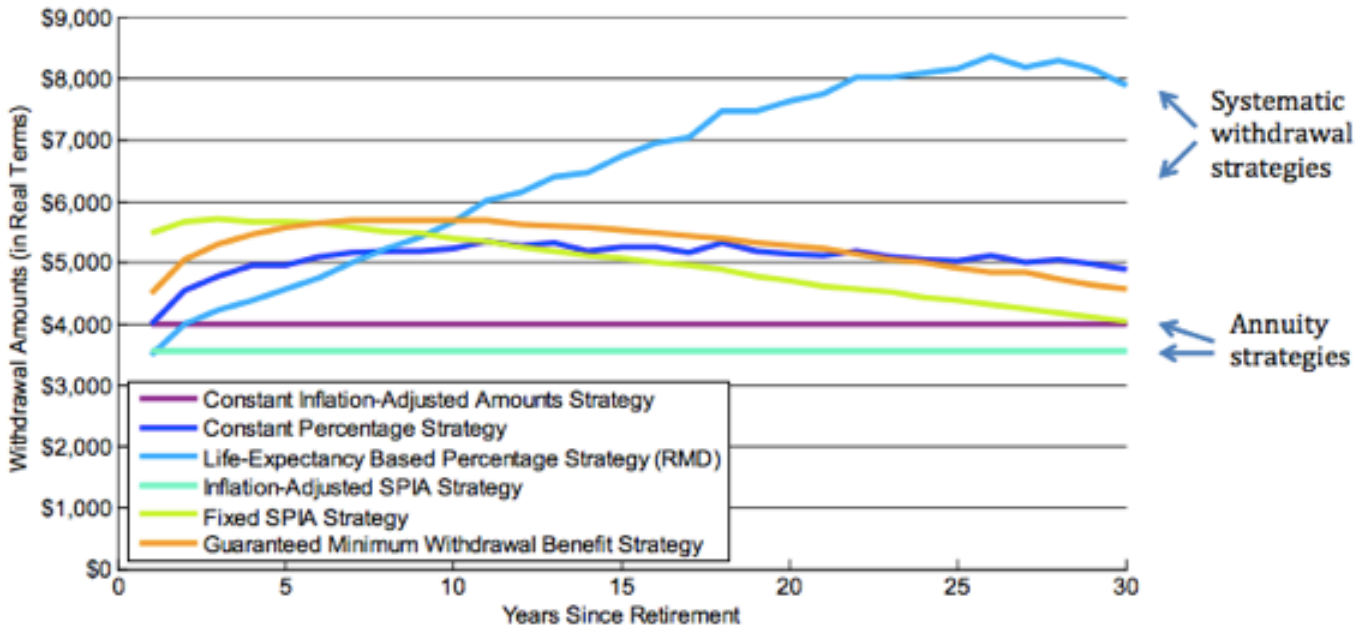
Source: Dr. Wade Pfau

Figure 2. Comparison of Forecasted Retirement Incomes Under *Unfavorable* Scenario for Six Retirement Income Generators



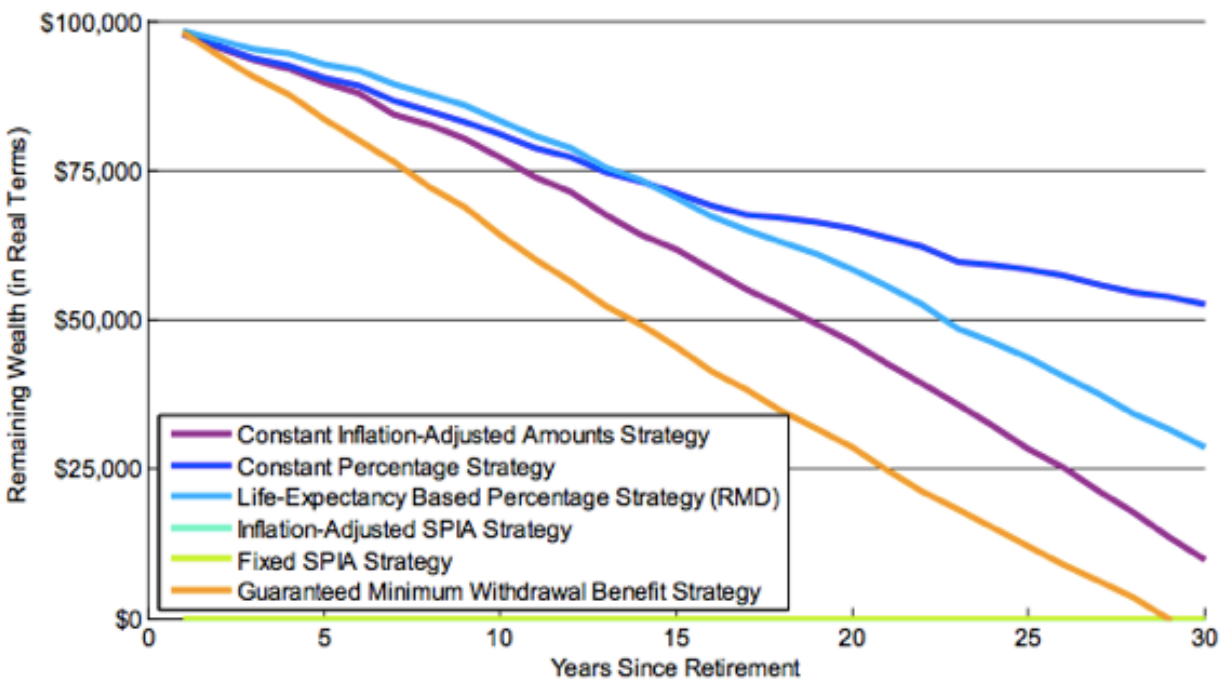
Source: Dr. Wade Pfau

Figure 3. Comparison of Forecasted Retirement Incomes Under *Favorable* Scenario for Six Retirement Income Generators



Source: Dr. Wade Pfau

Figure 4. Comparison of Forecasted *Expected* Remaining Wealth for Six Retirement Income Generators

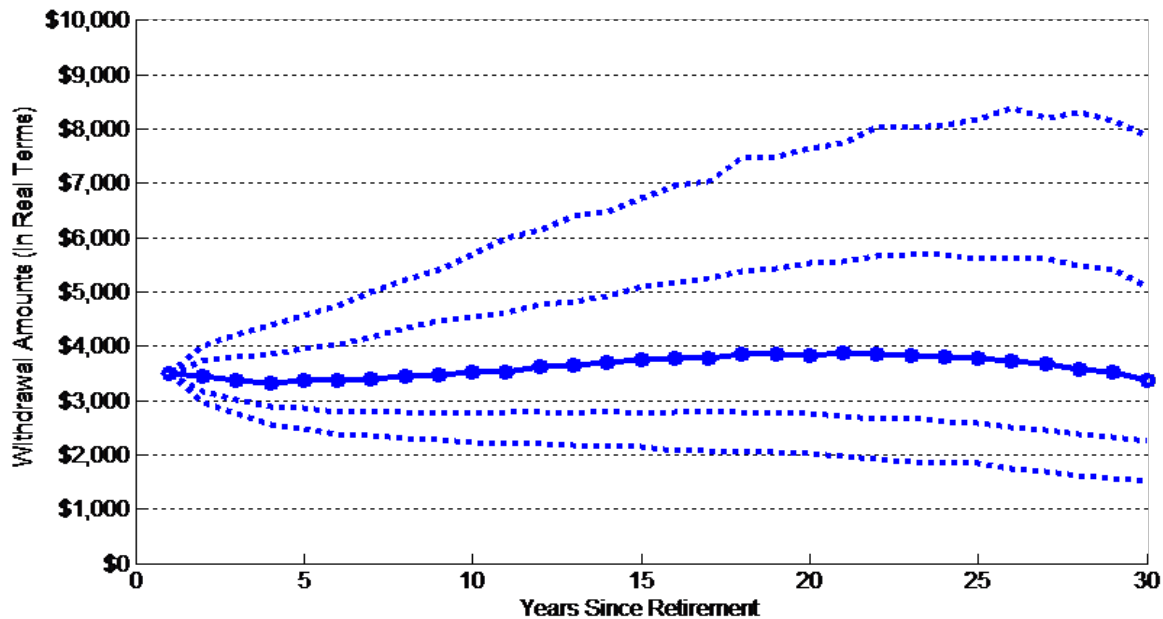


Source: Dr. Wade Pfau

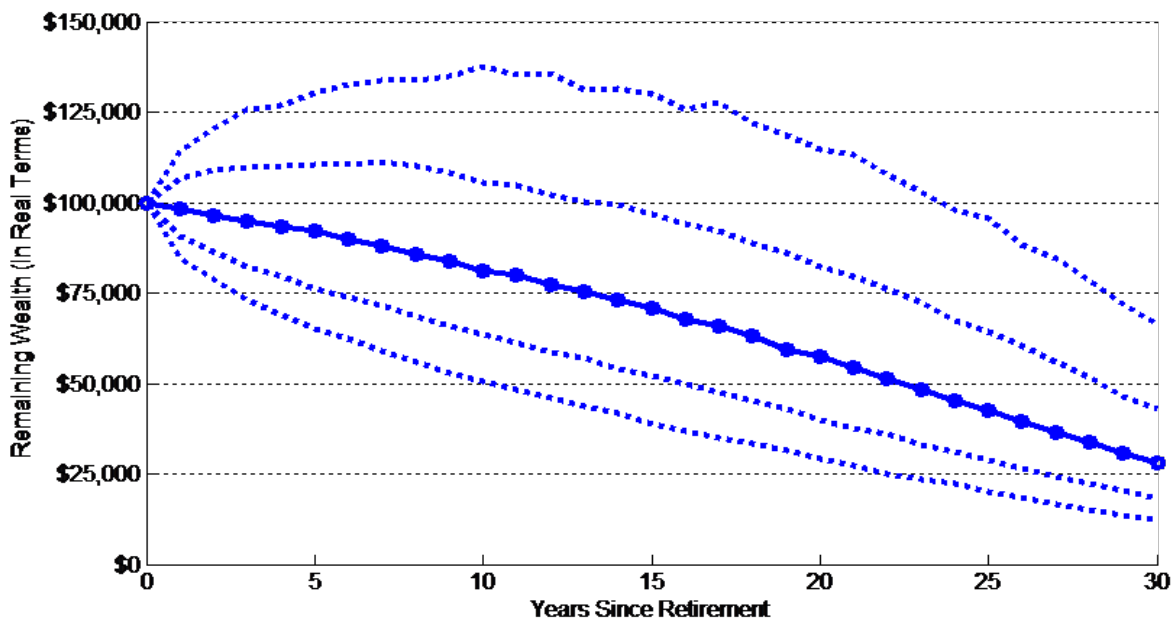


Figure 5. Systematic Withdrawals Based on Remaining Life Expectancies with IRS Required Minimum Distribution

*Retirement income*



*Remaining wealth*



**Analysis**

- The bottom line represents the amounts payable under the unfavorable scenario (10th percentile). Going up the chart, the lines represent the 25th, 50th (median), 75th, and 90th percentiles (favorable scenario), respectively.
- The IRS required minimum distribution (RMD) mandates withdrawals from tax-qualified accounts beginning at age 70-1/2. The RMD is determined as the account balance at the beginning of each year, divided by the remaining life expectancy according to IRS tables. The annual payout rate at age 70 is 3.65% of assets, increasing each year to 5.35% at age 80 and 8.77% at age 90. For the purpose of this forecast, the annual payout rates from ages 65 to 70 – before the RMD applies – are assumed to be 3.5% of assets each year.

# APPENDIX: DETAILS OF STOCHASTIC FORECASTS OF RETIREMENT INCOME SOLUTIONS

Stochastic forecasts, also known as Monte Carlo projections, simulate future amounts of retirement income and remaining wealth for a given retirement income generator (RIG) under a variety of possible future economic scenarios taking into account rates of return and inflation. The forecasts project the annual amounts of real retirement income, adjusted for inflation, and the remaining amounts of real wealth, for retirements lasting up to 30 years. Probabilities (percentile rankings) are assigned to the different projected outcomes.

These forecasts use assumptions for the rates of return on stocks and bonds and anticipated inflation, along with assumptions for the possible variations in these returns. The forecasts attempt to mimic reality by building in randomness in the projected returns and inflation, and by consistently correlating the movement of returns in stocks, bonds, and inflation based on historical patterns.

The assumptions are developed after reviewing historical returns for various asset classes, and then making adjustments for how future returns might deviate from historical returns based on the judgment of the professional preparing the forecasts. For example, in early 2013, interest rates on bonds were at historical lows, and it's most likely unrealistic to expect returns on bonds in the near future that are close to historical averages. The assumptions used in this report have been adjusted to reflect expected returns on stocks and bonds prevalent in late 2012 and early 2013.

The forecasts used in this report were prepared by Dr. Wade Pfau, professor of retirement income at The American College. He used the assumptions shown in Table C.1, which are documented in his article in the Fall 2012 *Journal of Financial Planning* titled "A Broader Framework for Determining an Efficient Frontier for Retirement Income." Returns for stocks and bonds are real amounts, after adjusting for inflation.

Table C.1. Assumptions Used for Stochastic Forecasts

	Real Returns			Correlation Coefficients		
	Arithmetic Mean	Geometric Mean	Standard Deviation	Stocks	Bonds	Inflation
Stocks	5.1%	3.1%	20.0%	1.0	0.1	-0.2
Bonds	0.3%	0.2%	7.0%	0.1	1.0	-.6
Inflation	2.1%	2.0%	4.2%	-0.2	-0.6	1.0

The assumed returns on stocks are representative of returns on the S&P 500, and the returns on bonds are representative of returns on intermediate-term government bonds. No over-performance or underperformance of returns relative to index returns is assumed from active management.

The forecast projects the retirement income and remaining wealth amounts for a married couple both aged 65 with \$100,000 in retirement savings at retirement.

The asset allocation for systematic withdrawal strategies and guaranteed minimum withdrawal benefit (GMWB) annuities is assumed to be 60% stocks and 40% bonds throughout retirement.

Systematic withdrawal strategies for institutional solutions are assumed to experience annual charges of 0.50% (50 bps) of assets each year for investment and administrative expenses. Annual charges of 1.50% (150 bps) are assumed for retail solutions.

Annuity purchase rates for fixed and inflation-adjusted immediate income annuities were obtained in early April 2013 using purchase rates from Income Solutions, an annuity bidding service. These purchase rates, expressing the amount of initial retirement income as a percentage of savings, are as follows:

- Fixed income 100% joint and survivor annuity: 5.49%
- Inflation-adjusted 100% joint and survivor annuity: 3.57%

The following assumptions were used to prepare the projections for GMWB institutional annuities:

- Initial annual amount of retirement income is 4.5% of assets at retirement for a 100% joint and survivor annuity. This rate is representative of rates offered by GMWB annuities in 2013 that are prevalent for tax qualified retirement plans.
- Investment, administrative, and insurance charges are 1.50% (150 bps) of assets each year, applied to the market value.

The following assumptions were used to prepare the projections for GMWB retail annuities:

- Initial annual amount of retirement income is 4% of assets at retirement for a 100% joint and survivor annuity.
- Investment and administrative charges are 2.25% (225 bps) of assets each year, applied to the market value.
- Annual insurance guarantee fee is 1.25% (125 bps), applied to the guaranteed benefits value.

Note that the above assumptions regarding charges for investment expenses, insurance fees, and annuity purchase rates represent competitive levels in 2013; fees and charges that are higher than these amounts would produce lower values of projected retirement income and remaining wealth.

This paper's author and Dr. Pfau acknowledge that other reasonable assumptions regarding investment returns, inflation, asset classes, asset allocations, and expense charges exist that may produce different results. Plan sponsors are encouraged to explore the assumptions that are most representative of their expected experience and the actual retirement income options that they are considering.

*The opinions expressed and conclusions reached by the authors are their own and do not represent any official position or opinion of the collaborating organizations or their members. The collaborating organizations make no representation or warranty to the accuracy of the information.*

***“To the extent that individuals arrive at old age  
mentally sharp, physically fit, and financially secure,  
societies will thrive.”***

*- Dr. Laura Carstensen, Founding Director,  
Stanford Center on Longevity*

***“The work of science is to substitute facts for appearances  
and demonstrations for impressions.”***

*- John Ruskin,  
Motto of Society of Actuaries*



SOCIETY OF ACTUARIES