

# THE PROBLEM WITH SPENDING TOO FAST: RETIREMENT SAVINGS WITHDRAWAL RATES



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This is the second in our series of papers addressing issues about secure retirement income. In our first paper “The Problem with Living Too Long” [[www.ircouncil.org/docs/The%20Problem%20With%20Living%20Too%20Long.pdf](http://www.ircouncil.org/docs/The%20Problem%20With%20Living%20Too%20Long.pdf)], we discussed the issue of longevity, which is probably best summarized using an example: for a married couple age 65, there is a 25% statistical probability that at least one spouse will live another 30 years. We started with longevity because retirees need to understand how long they may live in order to create a plan for accumulating, investing and spending their retirement savings. In this paper, we address the issue of withdrawal rates, that is, the rate at which retirees can withdraw money from their retirement savings with a high degree of confidence that they will not run out of funds before they die.

## KEY POINTS TO REMEMBER:

1. Many retirees believe they can withdraw 10% or more of their retirement savings each year and still have enough money to last until they die.<sup>1</sup>
2. Given the statistical chance that at least one spouse in a married couple age 65 will live another 30 years, “safe” withdrawal rates range from 4% to slightly more than 6% of a participant’s account balance, depending on the alternative the participant chooses – much less than most people think.

<sup>1</sup> Barney, Lee, “Americans All Over the Map on Retirement Drawdown Rates,” *Financial Planning* (*financial-planning.com*) (October 13, 2011). See, also, MetLife Mature Market Institute, *MetLife Retirement Income IQ Study* (June 2008), p. 5: “almost seven in ten (69%) respondents overestimate how much they can draw down from their retirement savings – with 43% saying they believe that they can withdraw 10% or more each year while preserving their principal....”

3. It is essential that participants be educated on the need to view their account balances as a source of retirement income rather than as personal wealth – and to be educated on realistic “safe” withdrawal rates.

## Introduction

The issue of withdrawal rates for retirement income is complicated by the fact that, in 401(k) plans, 403(b) arrangements and rollover IRAs, participants have account balances that they may view as a lump sum amount...that is, as personal wealth. As a practical matter, those retirement savings are actually used to provide income over the participants’ retirement years. However, in our experience, many participants have difficulty translating their account balances into sustainable monthly income, that is, a withdrawal rate that has a high probability of lasting for their lives during retirement.

Both the Department of Treasury and Department of Labor (DOL) are studying the issues for secure retirement income and the regulatory actions that they might take to help plan sponsors and participants address the issue. Among other things, the DOL is considering the possibility of mandating (or at least facilitating) the inclusion of monthly retirement income projections on participant benefit statements. And, the Treasury Department has recently issued

technical guidance to facilitate the use of retirement income products.<sup>2</sup>

Both regulators and retirement plan service providers want to encourage participants to think of 401(k) or other accounts as producing retirement income, that is, to consider how much monthly income their savings will produce on a sustainable basis. Viewed from that perspective, a participant needs to consider when to retire, how to invest his funds in retirement, whether to purchase an insured product (such as an annuity or other insured vehicle), and how to withdraw his funds in retirement. This paper focuses on the last issue: how much income can be generated from retirement savings in a way that is either guaranteed or that has a high probability of lasting for a participant's lifetime?

### **Withdrawal Rates**

There have been numerous studies conducted to determine a "safe" withdrawal rate for retirement funds. By "safe," we mean a withdrawal rate from investments which has a high degree of probability of lasting, or payments from an insured product that is guaranteed to last, for the participant's lifetime. Generally, the rate of withdrawals from investments or payments from insured products is between approximately 4% (inflation adjusted) and 6%

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<sup>2</sup> See press release at <http://www.treasury.gov/press-center/press-releases/Pages/tg1407.aspx> and materials referenced in that release.

annually, depending on how the funds are invested.<sup>3</sup> Anything greater than 6% results in a significant risk of exhausting the investments while the participant is still alive. This may come as a shock to many participants, who assume that they will be able to withdraw 10% or more of their funds each year.<sup>4</sup>

Before discussing the "safe" withdrawal rates, there are several preliminary items to address. The first is, what is meant by retirement income. For purposes of this paper, we have assumed that income in retirement should be intended to last for at least 30 years. This is based on statistical probability...as pointed out in our prior paper dealing with longevity, there is a 25% probability that, for a married couple age 65, at least one spouse will be alive at age 95. Put another way, there is a significant risk that, if a couple fails to plan for a 30 year period, they could well run out of money when they are elderly or be forced to make critical decisions about their finances when they are least capable of doing so.<sup>5</sup>

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<sup>3</sup> See William P. Bengen, "Determining Withdrawal Rates Using Historical Data," *Journal of Financial Planning*, October 1994, pages 171-180.

<sup>4</sup> See, Lee Barney, "American All Over the Map on Retirement Drawdown Rates," *Money Management Executive* (October 13, 2011)

<sup>5</sup> See, David Laibson, "Cognitive Impairment: Precipitous Declines in Cognition Can Set the Stage for Poor Decisions About Retirement Finances," which appears in *Behavioral Finance and the Post-Retirement Crisis*, submitted by Allianz of America to the Departments of Treasury and Labor in response to its RFI on lifetime income options (April 29, 2010), <http://www.dol.gov/ebsa/pdf/1210-AB33-617.pdf>. Professor Laibson's research showed a significant decrease in "analytic cognitive functioning" as people age and that older adults make financial mistakes. In effect, older people

For a 65 year old couple, if the withdrawal rate is set too high, at some point the surviving spouse will have nothing beyond Social Security (and possibly some personal assets) on which to live. But the converse is also true. That is, if the withdrawal rate was targeted to age 95 but both spouses die earlier, the couple will have lived at a somewhat reduced standard of living in retirement. In dealing with future uncertainty, however, it would appear that the latter is preferable to running out of money late in life.

But what rate is “right”? A commonly accepted figure is 4% of the initial account balance in the first year of retirement, followed by inflation-adjusted withdrawals in later years. This is based on analyses done by William P. Bengen in which he showed that in virtually all economic scenarios during the last century, in a portfolio allocated 50% to equities and 50% to bonds, retirement assets withdrawn at a 4% inflation-adjusted rate would last at least 30 years and possibly longer.<sup>6</sup> Subsequent research by T. Rowe Price arrived at essentially the same conclusion, *i.e.*, that there is more than a 90% probability that funds will last throughout retirement using a 4% inflation-adjusted withdrawal rate, whereas the probability

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are less able to make cogent financial decisions, to analyze financial data and properly consider risks, which suggests that they are less able to make sound decisions about their financial security once they reach their 80s...a point when they may live another 10 or more years.

<sup>6</sup> William P. Bengen, “Determining Withdrawal Rates Using Historical Data,” *Journal of Financial Planning*, October 1994, pages 171-180. Indeed, Bengen concluded that a 75/25 mix of equities to bonds would produce about the same result but that a 25/75 mix actually produced less favorable results.

drops to about 50% if the withdrawal rate is 6%.<sup>7</sup> Bengen’s study and others were predicated on retirement at age 65. When researchers have considered retirement at age 70 instead, they have determined that a 5% inflation-adjusted withdrawal rate would yield a similar statistical probability of lasting for the remainder of the individual’s life.<sup>8</sup>

What does a 4% withdrawal rate mean? Consider an account balance of \$1,000,000. In the first year, the annual withdrawal would be \$40,000 or \$3,333 per month. If the inflation rate is 3%, in the second year the withdrawal would be \$41,200 and so on.

Other research has suggested that a rate lower than 4% is more appropriate. For example, one financial service company’s proprietary Monte Carlo simulation performed in early 2011, analyzing a portfolio allocation of 60% stocks/40% bonds and assuming a 2.5% constant inflation rate, suggested a withdrawal rate of only 3.55% for a 30-year horizon.<sup>9</sup>

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<sup>7</sup> Comments of Richard Whitney, T. Rowe Price Group, Inc. presented at the DOL/SEC Target Date Fund Joint Hearing, June 18, 2009.

<sup>8</sup> Cooley, Philip L., Hubbard, Carl M. and Walz, Daniel T., “Retirement Savings: Choosing a Withdrawal Rate That Is Sustainable,” *AAll Journal* (February 1998). The authors concluded that for a portfolio invested 100% in U.S. equities, there was an 87% probability of funds lasting 25 years using a 5% inflation adjusted withdrawal rate and an 80% probability for a portfolio with 50% U.S. equities and 50% bonds. Similar statistics are reported for portfolios invested 65% in stocks, 35% in bonds and vice versa (87% and 87.8%, respectively) in Mulveny, Janemarie and Purcell, Patrick, “Converting Retirement Savings into Income: Annuities and Periodic Withdrawals,” *Federal Publications*, Paper 566 (December 2008).

<sup>9</sup> Proprietary study provided to the authors.

The 4% withdrawal rate is based on the retiree investing the assets and managing his or her own withdrawals. A number of mutual fund companies have created funds that provide a specified rate of distribution or that provide for distributions over a specified period. In both cases, the retiree is subject to market risk. In the first case, where a target rate of distribution has been established (subject to adjustment each year based on market fluctuations), distributions can be significantly reduced due to adverse market conditions. In that case, the distributions will last for the retiree’s lifetime, but may be substantially reduced. (Theoretically, if there are severe adverse market conditions for an extended period of time, and if the mutual fund’s investment manager does not substantially reduce the distributions, the investments could be exhausted while the retiree is still alive.) In the second case, the amount of the monthly distribution may vary depending on how the market – and thus the account balance – varies over time. In that sense, it is subject to market risks similar to the first case. In addition, the concept behind this second category of funds is that they will be exhausted at the end of the specified term (e.g., 20 years).

An alternative is for the retiree to use his lump sum retirement savings (or a part of it) to purchase an annuity. The annuity could be for the retiree’s life only, for the joint lives of the retiree and his spouse (a joint and survivor annuity), or could have a feature that guarantees payments for life with a specified

minimum period, such as 10 years. In the latter case, the insurance company makes payments for the specified period regardless of whether the retiree – or the retiree and his spouse – die within that period and then continues to make payments thereafter if the retiree and/or his spouse are still alive.

While purchasing an annuity means giving up control over the principal of the money, it also means having a guarantee that the retiree’s monthly income will continue for the period specified in the annuity. The following table shows the payment rates for a joint and survivor annuity, assuming an interest rate of 3.75%, an annual cost of living adjustment of 2.5% (in the third and fourth examples), and that the spouses (male and female) are the same age.<sup>10</sup> (Note that annuity withdrawal rates have dropped significantly in the last year due to the drop in interest rates and may increase in the future if interest rates rise.)

AGE AT WHICH DISTRIBUTIONS START	WITHDRAWAL RATE
Both spouses age 65	5.54% <i>without</i> COLA
Both spouses age 70	6.15% <i>without</i> COLA
Both spouses age 65	4.05% <i>with</i> 2.5% COLA
Both spouses age 70	4.72% <i>with</i> 2.5% COLA

(For ease of discussion, we use “withdrawal rate” to refer to both the rate at which a retiree takes money from his investments and the rate at which an

<sup>10</sup> Table based on information developed by G. Patrick Byrnes, MSPA, COPA, MAAA, EA, President, Actuarial Consultants, Inc.

insurance company makes payments under an annuity.)

Compare this to the 4% withdrawal rate example above. The retiree uses his \$1,000,000 account balance to purchase a joint and survivor annuity. At age 65, the payments from the insurance company will be \$55,400 per year (or \$4,617 per month); at age 70, the payments will be \$61,500 per year (or \$5,125 per month), with no inflation adjustment. If the payments are inflation adjusted, at age 65, the first year payment is \$40,500 (or \$3,375 per month); and at age 70, \$47,200 per year (or \$3,933 per month); and the amounts will increase each year because of the 2.5% cost-of-living adjustment.

The table shows two important factors: first, the rate of withdrawal can be materially higher if retirement is delayed to age 70 (11% higher than at age 65); and, second, the rate of withdrawal is significantly less when some level of inflation protection (*i.e.*, the COLA) is built into the product (27% less for a 65 year old couple and 23% less for a 70 year old couple using a 2.5% COLA). It is also important to recognize that these payment rates are higher than the withdrawal rates determined by Bengen and others. This is due in part to the fact that the insurance company is investing the premium payments of the retirees who purchase annuities and in part on the fact that it is able to pool the risks. That is, statistically some annuitants will live exactly to projected life expectancy, some will live longer, but others will die before reaching their life expectancy. In effect, those

who die earlier subsidize those who live longer, but the peace of mind may be worth the possibility of that loss.

A third alternative, which permits a retiree to maintain a degree of control over his funds, but at the same time provides a guarantee, is the guaranteed minimum withdrawal benefit (or GMWB) feature. The GMWB combines an insurance feature with investment in securities. The investment products to which this feature can be attached are generally risk-based portfolios or target date vehicles. The individual buys the guarantee by paying a “premium.” (The products in 401(k) plans usually cost between .5% and 1% of the amount of the “insured” account balance per year.)

For this premium, the insurance company makes two guarantees. First, withdrawals are tied to a “benefit base” rather than to the account balance; and, second, the insurance company will continue to make payments to the retiree at the specified percentage of the benefit base if the investments in his account are exhausted due to poor market returns and the retiree’s withdrawals (within the limits imposed by the terms of the GMWB). In most of these products, the benefit base increases at a guaranteed rate and/or with investment returns (up to retirement in most cases and after retirement in some), but does not decrease with investment losses. (Those GMWBs that adjust the benefit base to take into account post-retirement investment gains may be viewed as having a hedge against inflation.) In other words, there is a

form of protection against investment risk and a guarantee against longevity risk, so long as the retiree does not withdraw more than the permitted percentage of the benefit base. If the individual retires at age 65, that percentage is typically 5% for a single life and 4½% on a joint and survivor basis; the percentages go up to 6% and 5½% if the retirement age is 70.

Again, consider the \$1,000,000 account balance and assume that this is also the benefit base. If the individual retires at age 65 and begins taking withdrawals on a single life basis, he will be able to withdraw \$50,000 per year (\$4,167 per month); on a joint and survivor basis, the amount is reduced to \$45,000 (\$3,750 per month). At age 70, the amounts would be \$60,000 (\$5,000 per month) on a single life basis and \$55,000 (\$4,583 per month) on a joint and survivor basis. But what happens to withdrawals as the account balance changes with market fluctuations?

If the market declines in year 2, so that the account balance is reduced to \$900,000 (reflecting a \$50,000 first year withdrawal and a \$50,000 market loss), a participant who retired at age 65 may still take withdrawals at the \$50,000 rate (single life), since the guaranteed withdrawal rate is predicated on the benefit base (and not on the account balance). If we assume that the account is completely exhausted in 20 years and the retiree is still alive, the insurance company will begin making payments at the \$50,000 annual rate. (If the individual withdraws funds at a

higher rate, these withdrawals will reduce the benefit base and thus the guaranteed payment when the individual's funds run out.)

Assume the market goes back up in year 3. The account balance at the end of year 2 stood at \$850,000 after the second year withdrawal. If the account were to gain 20%, in those products in which market gains are taken into account post-retirement, the account balance and benefit base would go up to \$1,020,000, and the participant could take an annual withdrawal on a single life basis of \$51,000 (\$4,250 per month) or \$45,900 (\$3,825 per month) on a joint and survivor for that year and each year thereafter.

In the case of a GMWB, it is possible that a portion of the account balance may remain at the death of the retiree (or his spouse if later). This could occur if the retiree dies early or if the market performs better than anticipated. For example, in a product in which post-retirement investment returns can increase the benefit base, if the net return on the account balance in the first year is 6%, after deduction of a 1% premium, a 5% distribution would be made entirely out of earnings and would not diminish the account balance. If this were to continue for a significant period, the account balance might never be exhausted during the retiree's (and spouse's) lifetime, and there would be funds remaining to leave to heirs.

### **Retiree Risk**

The issue of a "safe" withdrawal rate is critical for retirees. The faster a retiree takes money out of his

retirement savings, the greater the likelihood that his funds will be exhausted before he dies, unless he purchases an annuity (in which case the payment rate is fixed) or purchases a GMWB (in which case, the withdrawal rate may also be “fixed” in the sense that faster withdrawals will reduce the benefit base and, therefore, the guaranteed distribution amount). But the key for participants in 401(k) and 403(b) plans is understanding...understanding that the account balance is not wealth, but a source of monthly income; understanding that the funds must be withdrawn on a disciplined basis in order to last; understanding that the rate of withdrawal is almost certainly less – perhaps far less – than the participant imagined.

### Conclusion

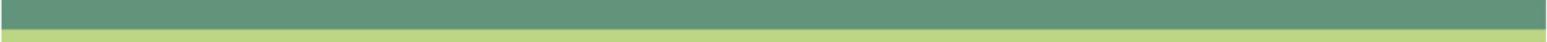
Data show that withdrawing funds at anything higher than a rate of 4% to 6% (depending on how the funds are invested) leads to a high probability that the retiree will run out of funds before 30 years. This is a fairly broad range and depends on a large number of factors, including whether there is an insurance company bearing the investment and longevity risks. Absent such a guarantee, several studies have shown that when a retiree is withdrawing funds from his own investments without a guarantee, Bengen’s 4% rate is, over time, about right for a 65 year old, and particularly for a 65-year-old couple.

More importantly, the studies show that there are limits on how much monthly income a 401(k) or

403(b) participant should expect to withdraw out of his account at retirement, whether he continues to manage his own investments or uses part or all of his account to purchase an annuity or other insured vehicle. Looking at the 65 year old with a \$1,000,000 account balance taking a single life distribution, his withdrawal rate options are shown in the following table. Though some commentators argue that inflation protection is not necessary,<sup>11</sup> the annuity amounts are shown with a cost-of-living adjustment for purposes of comparability. That is, as discussed earlier, the 4% figure from a participant’s individual investments assumes inflation adjustment and a GMWB has access to market gains which may be roughly equivalent to inflation protection.

SOURCE OF FUNDS	INITIAL WITHDRAWAL PERCENT	INITIAL ANNUAL AMOUNT	INITIAL MONTHLY AMOUNT
<b>Participant’s IRA</b>	4%	\$40,000	<b>\$3,333</b>
<b>Investment with GMWB</b>	5%	\$50,000	<b>\$4,167</b>
<b>Single Life Male Annuity (plus COLA)</b>	4.72%	\$47,200	<b>\$3,933</b>
<b>Joint and Survivor Annuity (plus COLA)</b>	4.05%	\$40,500	<b>\$3,375</b>

<sup>11</sup> This is based on the theory that as people age, they tend to spend less on non-essentials, such as travel, a new wardrobe, a new car and the like. On the other hand, a retiree’s medical expenses tend to increase as he gets older, so the argument that inflation protection is not necessary may not be valid.



There are tradeoffs for each of these, no one solution is right for every person, and it may be appropriate to mix several approaches to achieve the right balance for a particular person.

Creating “safe” retirement income is a multi-faceted task, requiring an understanding of longevity probabilities, withdrawal rates, the impact of inflation, asset allocation, and the sequence of market returns. In our experience, participants need help to understand that there is a reasonably high probability that they will live almost a third of their life after retirement (at age 65) and that they need to treat their retirement funds not as an asset but as a source of monthly income.

It is likely that no single strategy will cover a given retiree’s needs or desires for retirement income. With baby boomer retirements now beginning, we believe that a variety of strategies will be used by individuals, and it seems likely that, for many retirees, a blend of approaches will produce the best outcome.

## **About the Authors**

**Fred Reish** is a member of The Institutional Retirement Income Council (IRIC) and is a partner of the law firm of Drinker Biddle & Reath LLP, specializing in employee benefits. His practice focuses on fiduciary responsibility and plan operational issues. His clients include plan sponsors and fiduciaries, broker-dealers and RIAs, recordkeepers and TPAs and other financial service companies and providers. Fred chairs his firm's Financial Services ERISA Team and is a member of its Retirement Income Team. He was recognized as one of the 15 "Legends" of the retirement industry by PlanSponsor magazine and one of the 5 "Legends" by PlanAdviser magazine. Fred also received awards for: the 401(k) Industry's Most Influential Person by 401kWire; the Commissioner's Award and the District Director's Award by the IRS; the Eidson Founder's Award by ASPPA; the Institutional Investor and the PlanSponsor magazine Lifetime Achievement Awards; and the ASPPA 401(k) Leadership Award. In addition, he has been recognized in the legal community as a Charter Fellow of the Employee Benefits Counsel of the American Bar Association.

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**Pat Byrnes**, COPA MSPA, EA, MAAA is an enrolled Actuary and the founder of Actuarial Consultants Inc. and has more than 35 years of experience in the pension industry. His passion is to make a difference with the retirement plan industry. He is a Past President of the American Society of Pension Actuaries (ASPPA) (1991), a 6,000-member national actuarial organization headquartered near Washington, DC. He is a member of the American Academy of Actuaries, and is a frequent speaker at national and regional conferences. Pat is a private sector co-founder of the Los Angeles Benefits Conference with the IRS (1992), which is approaching its 19th year, and most recently helped merge the College of Pension Actuaries (COPA) into ASPPA now known as ASPPA College of Pension Actuaries. Pat has received the Director's Award from the Internal Revenue Service Los Angeles District in 1999, he has also received the Commissioner's Award from the Internal Revenue Service in 2004 as well as the Harry T. Eidson Founders Award in 2005 from ASPPA.