

# Solving the Problem of Retirement

By Paul Merriman

## Article Highlights

- The problem of retirement is that life can place potentially unlimited demands on finite life savings, making it hard to determine how much should be saved.
- Combining a portfolio diversified across U.S. and international stocks as well as real estate with a flexible withdrawal strategy improves the long-term odds of solving the retirement problem.
- Saving more than you need allows you to live further from “the edge” and gives you more resources to cover emergencies and unexpected expenses.

**F**or many people, retirement is a wonderful, fulfilling time when they’re finally relieved of many pressures and struggles that may have dominated their life.

But retirement is often a problem for those who have not saved enough to live comfortably. For many people in their 50s and 60s, that problem suddenly looms large as they are forced to confront a variety of realities.

They may have inadequate savings. They may have unanticipated responsibilities caring for family members or paying large medical bills.

If you’re wondering what I have to say about this, in a nutshell here’s a “spoiler alert:” There’s no magic bullet. But if you do a few things diligently and well, you can probably solve what I call “the problem of retirement.”

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## The Problem

The problem of retirement is essentially that life can place potentially unlimited demands on your finite life savings. As a result, it can be very hard to know when you have enough savings in order to “safely” retire.

In this article, I tell you the best ways I know to address this problem.

A decade or two ago, many advisers and financial experts



believed and taught that a retiree could safely withdraw 5% of their investment portfolio every year without much risk of running out of money. In recent years, I’ve met very few people who wouldn’t be satisfied with that formula. If you have \$1 million when you retire, you could take out \$50,000 a year for living

expenses. (For the sake of convenience, I assume for the rest of this discussion that we’re talking about a retiree with \$1 million, even though many people have more and many others have less.)

Furthermore, the thinking went, investment returns were likely to at least keep up with inflation. That meant you could withdraw \$50,000 in the first year and adjust that number upward every year for actual inflation. As it turns out, the success of that scenario depends largely on the luck of inflation and of market returns during the first few years of your retirement—neither of which can be foreseen. If this luck turns against you, you could be in real trouble.

To see how real this trouble is, take a look at Table 1, which tracks what would have happened to somebody who retired in 1970, invested solely in the S&P 500 index and followed this formula. The startling news is that, after 10 years of retirement, the numbers show that you were locked into an unpleasant race to see which would run out first: your money or your life.

At the end of 1979, after just a decade of supposedly

carefree retirement, your \$1 million portfolio would have been worth only \$803,741. At the start of 1980, you would have needed to withdraw \$101,819, or 12.7% of your portfolio, just to meet your cost of living (\$50,000 in 1970 dollars).

You can see from the dashes toward the bottom of this table that this course of action would have reduced your portfolio to less than \$4,000 by the end of 1992. The other columns in the table indicate you could have prolonged the agony by another couple of years if you had kept 40% to 60% of your portfolio in fixed-income funds. The ultimate outcome would have still been the same: By the mid-1990s, you would have been broke.

These days, the standard withdrawal advice has shifted from 5% to 4%. (Many advisers are recommending withdrawals as low as 3%.)

To see how 4% withdrawals would have worked, take a look at Table 2, which presumes that you could afford to live on a \$40,000 withdrawal your first year in retirement. At first glance, this table looks much better.

The analysis used to construct these tables covers 47 years, considerably longer than the retirement span most people can expect. However, there's a good chance that if you and your spouse retire at 65, at least one of you will still be around 30 years later at age 95. (Portfolios were halted if the balances fell to zero prior to the end of the 47-year period.)

Using that assumption, let's look at the year 2000, after 30 years of retirement. For inflation-adjusted living expenses that year, you would need to withdraw \$179,221 from a portfolio that

**Table 1. Moderate S&P 500 Fixed 5% Distribution Schedule**

Retirement starts with an initial investment value of \$1 million. Fixed initial withdrawals (5% of initial portfolio balance) are adjusted each year for inflation, with distributions taken at the start of the year. The results reflect Fine Tuning Table returns (published in the online version of my June *AAL Journal* article, "Power Your Portfolio With Value") and no management fees.

Year	Total Portfolio Value (\$)					Annual Distribution (\$)	Inflation** (%)
	100% Bonds	40% Stocks/ 60% Bonds	50% Stocks/ 50% Bonds	60% Stocks/ 40% Bonds	100% Stocks*		
1970	1,090,624	1,051,897	1,041,644	1,031,176	988,247	50,000	5.48
1975	1,135,046	1,028,374	997,868	966,085	834,952	68,807	7.01
1980	1,013,902	1,036,038	1,028,998	1,016,590	929,399	101,819	12.41
1985	1,021,187	1,039,828	1,016,594	981,494	762,013	139,834	3.77
1990	558,214	704,100	689,993	651,943	320,550	167,444	6.10
1992	273,987	489,580	479,662	437,215	3,572	183,111	3.03
1993	93,610	330,576	319,760	273,177	—	188,660	2.75
1994	—	134,830	124,723	78,928	—	193,854	2.67
1995	—	—	—	—	—	na	na

\*S&P 500 index.

\*\*As measured by consumer price index (CPI).

**Table 2. Conservative S&P 500 Fixed 4% Distribution Schedule**

Retirement starts with an initial investment value of \$1 million. Fixed initial withdrawals (4% of initial portfolio balance) are adjusted each year for inflation, with distributions taken at the start of the year. The results reflect Fine Tuning Table returns (published in the online version of my June *AAL Journal* article, "Power Your Portfolio With Value") and no management fees.

Year	Total Portfolio Value (\$)					Annual Distribution (\$)	Inflation** (%)
	100% Bonds	40% Stocks/ 60% Bonds	50% Stocks/ 50% Bonds	60% Stocks/ 40% Bonds	100% Stocks*		
1970	1,102,104	1,062,969	1,052,609	1,042,030	998,650	40,000	5.48
1975	1,221,648	1,111,483	1,079,964	1,047,122	911,627	55,046	7.01
1980	1,230,088	1,279,661	1,279,194	1,273,215	1,211,615	81,455	12.41
1985	1,641,507	1,728,416	1,720,820	1,700,661	1,539,525	111,867	3.77
1990	1,711,535	2,076,084	2,113,576	2,125,027	1,981,777	133,955	6.10
1995	1,659,065	2,597,462	2,766,812	2,894,185	3,054,766	159,225	2.67
2000	1,164,929	3,234,061	3,761,669	4,252,151	5,790,356	179,221	3.38
2005	448,346	2,828,407	3,352,851	3,797,623	4,810,664	202,658	3.42
2010	—	2,265,460	2,864,665	3,341,187	4,149,511	230,001	1.50
2015	—	1,655,413	2,618,486	3,482,483	5,740,121	250,090	0.73
2016	—	1,485,726	2,529,208	3,485,142	6,144,608	251,910	2.07

\*S&P 500 index.

\*\*As measured by consumer price index (CPI).

ended 1999 with a value of \$6.5 million. That's a withdrawal rate of about 2.7%.

A piece of cake, right?

Well, not quite. In order to achieve that year-end portfolio value, you had to keep 100% of the portfolio allocated to stocks. Looking back now, we can see that was fine. For retirees in their

80s and 90s, 100% equities can seem pretty scary. You could have significantly reduced that risk by keeping half your portfolio in equities and half in fixed-income funds.

I think these returns may overstate the case of what we can expect in the future. The 1990s included an almost

unprecedented boom in U.S. stock prices. Plus, bond prices in the 1980s and 1990s benefited from a very long decline in interest rates. There's no way that could recur any time soon. So I'm not sure that the 4% rule, now widely quoted, is enough to solve "the retirement problem."

### Solving the Problem

What's the answer? I propose three ways you can mitigate the problem. If you do as I have done with my own portfolio and put all three of them to work, you can effectively solve the problem. They are:

- Diversify widely and sensibly beyond the mainstream U.S. stock market (represented by the S&P 500 index).
- Adopt a flexible distribution system based on your portfolio value rather than a fixed inflation-adjusted budget set at the start of your retirement.
- Before you retire, save considerably more money than you think you'll need.

### Diversify

For many years, I have advocated for the use of multiple asset classes in the asset part of most retirement portfolios.

Specifically, I recommend equal parts of U.S. large-cap blend stocks (like those in the S&P 500), U.S. large-cap value stocks, U.S. small-cap blend stocks, U.S. small-cap value stocks, U.S. real estate investment trusts (REITs), international large-cap blend stocks, international large-cap value stocks, international small-cap blend stocks, international small-cap value stocks and emerging markets stocks.

When you put together such a portfolio using low-cost index funds and exchange-traded funds (ETFs), the result is what I call the Ultimate Equity Portfolio. I described this combination in the June 2017 *AII Journal* ("Power Your Portfolio With Value").

This carefully constructed combination is designed to take advantage of the long-term higher expected re-

turns from value stocks and small-cap stocks and the risk reduction you often get from investing outside the United States. Most of my own portfolio is based on this approach.

In our portrait of the person who retired in 1970, we assumed

the portfolio was entirely in the S&P 500. Table 3 gives a comparison showing different results if you had invested in the Ultimate Equity Portfolio and took out \$50,000 each year adjusted for inflation.

Why the "probably never" in that last line of the table? Because at the end of 2016, the Ultimate Equity Portfolio was worth \$28,738,813 and the distribution for 2016 was only \$314,888, or about 1.1% of the portfolio. (And relatively few people who had retired in 1970 were still around at the end of 2016 anyway.) If by some miracle you were still living in 2017 and had investments worth \$28 million, you probably would have felt quite comfortable about spending more than \$314,888.

This leads me to my second suggestion for mitigating the retirement problem: taking flexible distributions instead of fixed ones.

### Flexible Distributions

Our first scenario was based on a \$1 million initial investment made in 1970 with a need for a \$50,000 withdrawal in the first year. The withdrawal amount is then adjusted each year for inflation. When that portfolio was invested in the S&P 500, the long-term scenario was derailed by the unceasing increases in the required withdrawal.

In six of the first 12 years of this retirement scenario, inflation was above 8%. That could not have been predicted, but it's always possible. Every year, inflation relentlessly drove up each required withdrawal, regardless of how the investments in the portfolio grew. Before too long, as we saw, the portfolio

**Table 3. Ultimate Equity Portfolio with 5% Withdrawal Rate**

The Ultimate Equity Portfolio diversifies globally, by size and by valuation and includes real estate investment trusts (REITs). A 5% inflation-adjusted withdrawal rate is used.

	S&P 500	Ultimate Equity Portfolio
Portfolio value 12/31/79	\$803,741	\$1,632,626
Withdrawal for 1980	\$101,819	\$101,819
As percent of portfolio	12.67%	6.24%
Year you run out of money	1992	Probably never

simply could not keep up.

There's a better way to take money out during retirement, at least for those who can afford it. That is to adjust withdrawals depending on how your investments are doing. This is essentially what any smart investor would want to do: Take out a bit more when things are going well, and tighten his or her belt a bit when the investment portfolio is struggling.

Such a flexible distribution schedule can't give you certainty in advance of how much you'll have. In this period starting in 1970, it would have required some serious belt-tightening. In 1980, instead of taking out \$101,819 from a portfolio invested in the S&P 500, our hypothetical retiree would have had to get by on only \$52,917. This certainly presents a problem, which I'll address shortly.

In the longer run, things got much better, as you can see in Table 4. By 1991, this portfolio did well enough that the distribution was up to \$146,896, and it never got that low again. By the year 2000, the S&P 500 portfolio had done so well that the distribution was up to \$509,053.

When this flexible distribution plan was applied to the much more diversified Ultimate Equity Portfolio, the result was considerably better.

In 1980, a distribution of \$93,995 was taken, much more than the \$52,917 distribution from the S&P 500 portfolio. However, even with this combination of diversification and a flexible withdrawal schedule, there were some rough years in the 1970s to get through if you re-

**Table 4. 100% Stocks (S&P 500) Flexible 5% Distribution Schedule**

Retirement starts with an initial investment value of \$1 million. Flexible withdrawals based on 5% of initial portfolio balance are adjusted each year for inflation and market performance, with distributions taken at the start of the year. The results reflect Fine Tuning Table returns (published in the online version of my June *AII Journal* article, "Power Your Portfolio With Value") and no management fees.

Year	Year-End Balance (\$)	Distribution (\$)	Cumulative Distribution (\$)
1970	988,247	50,000	50,000
1975	895,582	34,353	297,252
1980	1,331,264	52,917	541,128
1985	2,046,402	81,490	899,386
1990	2,937,919	159,581	1,519,319
1995	4,897,786	187,367	2,416,461
2000	8,791,336	509,053	4,261,558
2005	6,989,859	350,662	6,024,952
2010	6,057,318	277,070	7,651,915
2015	8,471,948	439,806	9,419,374
2016	9,010,943	423,597	9,842,972

ally needed \$50,000 each year adjusted for inflation.

With fixed distributions, you didn't have to worry about either inflation or your investment returns, at least for a while. In 1975, you took out \$68,807. In 1978, you took out \$82,409. Those withdrawals met the needs that you determined before you retired.

On the other hand, with flexible distributions, your income depended on how your investments were doing. Even though you had the benefit of worldwide diversification, in 1975, you could take out only \$37,012. In 1978, your withdrawal was \$68,580, still considerably less than the \$82,409 that you needed.

Not until 1984, the 15th year of your retirement, would the flexible distribution catch up to your "needs." (However, from that point forward your flexible

distributions would have remained ahead of those from the fixed schedule.)

How many retirees are willing to undergo that much belt-tightening in order to wind up with more money to spend in their later years? Not many.

So, we are still stuck with "the problem of retirement." Fortunately, there's still a way to solve that problem.

### Save More Than You Need

Admittedly, this final step is much easier for young people than it is for those in their 60s. Still, the math is undeniable: If you start with more, you can live further from "the edge." If nothing else, you'll have more resources to cover the emergencies

and unexpected expenses that don't stop coming your way just because you have retired.

Let me suggest a little math: If you really need \$50,000 from your portfolio in your first year of retirement, a \$1 million portfolio means you're counting heavily on things going your way. This we have seen.

Now suppose you started with \$1.5 million, still needing only \$50,000. If you multiply the distribution figures by 1.5, you'll see that your needs will be met, even in a tough decade like the 1970s, with a serious bear market (1973 and 1974) followed by some serious inflation (12.2% in 1974, 13.3% in 1979, 12.4% in 1980).

True, you would have had to tighten your belt a bit in a few years, but starting in 1978, you would have had a comfortable cushion above your needs. In addi-

tion, the flexible distribution schedule would ensure that your portfolio would always be larger than if you took fixed distributions.

Even better, after 10 or 12 years of retirement, you could have comfortably increased your withdrawals to a 6% rate.

For example, assume that you maintained a flexible distribution schedule and a properly diversified equity portfolio. Assume also that in 1982, you upped your withdrawal rate to 6%. In that year, you would have been able to spend \$141,528. That compares with your "need" that year for \$74,811. And things just continued to get better from that point forward.

This three-way combination of diversification, flexible distributions and over-saving adds up to what I have described elsewhere as "The ultimate retirement withdrawal strategy."

The steps you need to take to over-save are not complicated.

- Tighten your belt a bit in your peak earning years to set aside more money (and incidentally get in the habit of living a bit below your means).
- Plan to work a few years longer before you retire. This has the double benefit of boosting your savings while reducing the number of years your portfolio has to "pay you" in retirement.
- If you can, find a way to work part-time for the first few years of "retirement" so you postpone the full weight of distributions you will need.

Not everybody can do these things, of course. Plus, no matter what you do, the "luck" of the unexpected can always interfere with your plans.

Yet with these simple steps, you can come as close as possible to Solving the Problem of Retirement. I hope you'll do so. ▲

*Richard Buck contributed to this article.*

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