



## Bonus Chapter

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*Stock Investing in Retirement:  
Opportunity and Risk  
For  
Don't Go Broke in Retirement*

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*Rest-of-Life Communications*

Oxnard, California

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The following bonus chapter supplements the book *Don't Go Broke in Retirement: A Simple Plan to Build Lifetime Retirement Income*. It is intended to provide readers with additional insights to help implement the strategies that are discussed in *Don't Go Broke in Retirement*.

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## Bonus Chapter

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# Stock Investing in Retirement: Opportunity and Risk

Investing for retirement presents a serious dilemma to many retirees: How much money can they afford to risk by investing in the stock market? On the one hand, many retirees are afraid of stock market crashes, since they could be too old to return to work to make up any investment losses they might incur. On the other hand, equity investments have the potential to increase significantly in value over a potentially long retirement that could last 25 years or more.

Recent retirees and older workers who are approaching retirement should develop strategies that balance the need to protect their lifestyle with the potential for realizing significant gains in assets and income throughout their lives. This bonus chapter helps you balance these goals.

The information provided here is a supplement to the book, *Don't Go Broke in Retirement: A Simple Plan to Build Lifetime Retirement Income* (2020). In that book, Chapter 4 describes basic concepts for investing during retirement. This bonus chapter provides more details on those concepts, using the *Spend Safely in Retirement Strategy*, as described in detail in the above book. Both chapters can help you decide how much calculated investment risk you can comfortably assume for the potential of growing your retirement income with the *Spend Safely in Retirement Strategy*.

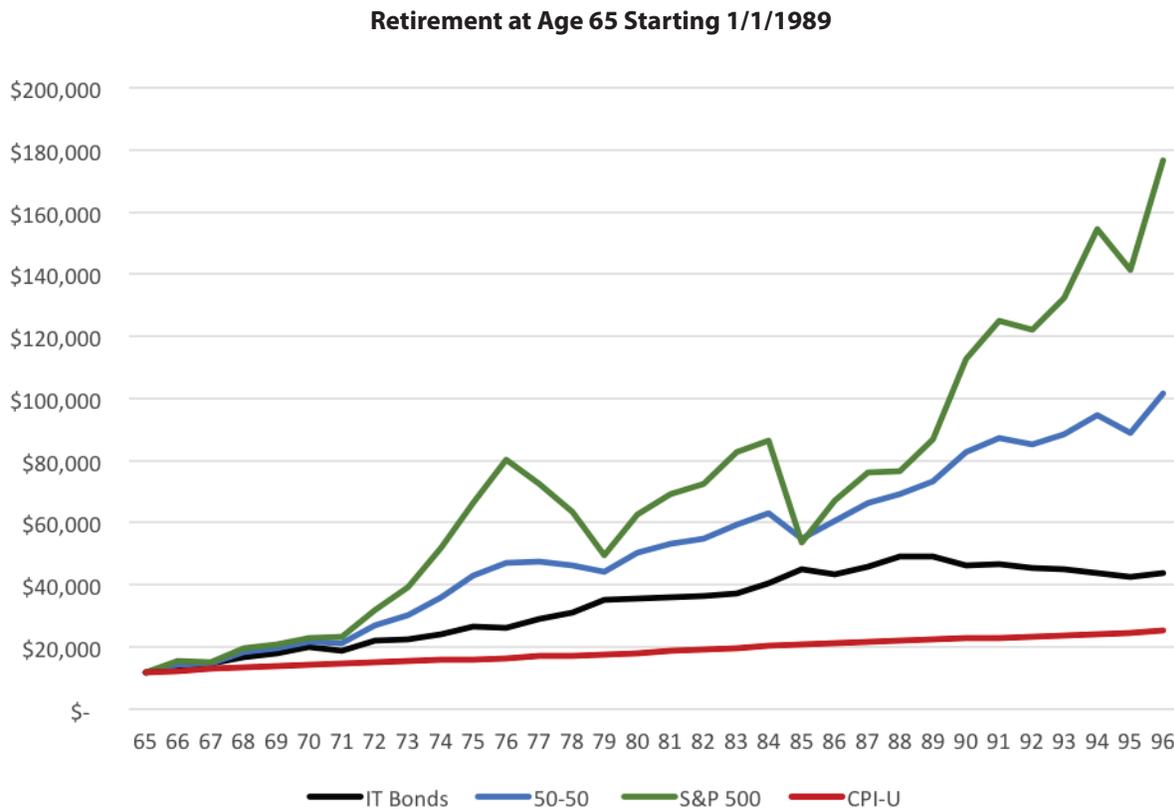
The line graphs in this bonus chapter offer an illustrated view of the potential rewards and risks of investing in stocks during your retirement to more intuitively show what you might expect. They compare the year-by-year amounts of retirement income from different asset allocations for several different historical time periods. And they provide evidence for an important observation: Most of the time, you'll enjoy more income throughout retirement by investing in stocks—*but not always!*

The line graphs show the annual amounts of retirement income for a 65-year-old married couple who both retire at age 65 with \$400,000 in retirement savings. To calculate the amounts they can withdraw from savings each year, they use the IRS required minimum distribution (RMD) methodology that applies in 2021 and thereafter. They also use the RMD methodology before the age when the RMD rules actually apply to them, a withdrawal method discussed in Chapter 3 of *Don't Go Broke in Retirement*.

## Retirement Income from 1989 to 1989

Figure 1 shows the nominal year-to-year amounts of retirement income for a 30-year retirement starting at age 65 on January 1, 1989. This period represents the most recent 30-year period for which we have investment history at the time this bonus chapter was published.

**Figure 1. Annual amount of nominal RMD income for a 30-year retirement starting in 1989 for three asset allocations. Example is for a married couple age 65 with \$400,000 in starting assets.**



This graph uses the RMD methodology that applies in 2021 and thereafter, as described in Chapter 3 of *Don't Go Broke in Retirement!*, to calculate annual income amounts. It assumes a starting asset value of \$400,000, with three possible asset allocations:

- 100% stocks, using the total return on the S&P 500 index including dividends
- 100% intermediate-term government bonds (with five-year maturities)
- 50% stocks/50% bonds

## Stock Investing in Retirement: Opportunity and Risk

In addition to the three lines showing different asset allocations, I added a fourth line (the red line labeled CPI-U) that starts with the initial RMD withdrawal amount of \$11,834 at age 65 that \$400,000 in savings generates. I then adjusted this amount each year for the change in the Consumer Price Index (CPI-U). This helps illustrate how the retirement incomes under the three asset allocations would have kept up with inflation.

As you can see, Figure 1 shows the considerable fluctuations in the estimated year-to-year retirement income amounts with 100% allocation to stocks. There were two periods of significant decreases in retirement income following the stock market declines in 2000-2002 and in 2008. Note, however, that these decreases followed periods of significant increases in retirement income, due to favorable investment experience that preceded the stock market declines. So, in spite of this volatility, for the 30-year retirement period beginning in 1989, the RMD methodology coupled with 100% equity investments projected much more income than would be generated with an allocation of 100% to bonds or even the 50/50 portfolio.

The 50/50 portfolio represents a compromise between the 100% stock and 100% bond portfolios. This may be a good choice for people who are unwilling to “go all in” with either stocks or bonds, and who want to spread their investments between different investing vehicles. The 50/50 portfolio projects less year-to-year fluctuations than the 100% stock portfolio, and also projects more income than the 100% bond portfolio.

Note that all three asset allocations, including the 100% bond portfolio, outpaced inflation during this period.

The table below (Table 1) provides more details from one period in Figure 1 on the potential rewards and volatility that come with a 100% allocation to stocks as compared to the two other asset allocations. This table compares the retirement income amounts that resulted from investment losses experienced during the significant stock market decline in 2000-2002, which occurred between ages 76 and 79 for these retirees:

**Table 1. Comparing volatility in nominal retirement income amounts during 2000-2002**

<b>Age</b>	<b>Annual income with 100% bond allocation</b>	<b>Annual income with 50/50 equity/bond allocation</b>	<b>Annual income with 100% equity allocation</b>
76	\$26,017	\$47,008	\$80,179
77	\$29,164	\$47,620	\$72,563
78	\$31,243	\$46,389	\$63,644
79	\$35,114	\$44,049	\$49,342

Which income would you rather have at age 79? (Note that given current longevity trends, most retirees will still be alive in their late 70s). An annual income of \$49,342 under the 100% stock allocation? Even though your income would have dropped significantly in just three years from the far higher starting point of \$80,179 at age 76? Or would you rather have a much lower income of \$35,114 at age 79 under the 100% bond allocation, an income that experienced small but steady increases throughout retirement?

Admittedly, these are extreme results; however, they illustrate that investing in stocks provides the potential for you to earn significantly more income delivered over the course of your retirement compared to a 100% bond portfolio, even when accompanied by significant fluctuations in retirement income amounts. Note that this observation is based on historical rates of return.

And those historical rates of return are important: The 30-year period from 1989 to 2019 included not only the significant stock market runups but also the tech bubble bursting in 2000- 2002 and the Great Recession of 2008-2009. Even with two stock market crashes, the period from 1989 to 2019 represents a favorable view of investing in stocks during retirement. Next, let's look at one of the worst possible historical periods to invest in stocks during retirement.

## **Retirement Income from 1929 to 1959**

Figure 2 provides the same type of analyses as Figure 1, but it does so for a 30-year retirement that started in 1929, possibly the worst possible period in recent history for investing in the U.S. stock market if you were retired.

For this particular 30-year retirement, during the period between ages 65 and 81, investment in bonds would have produced a higher retirement income than the 100% stocks or the 50/50 portfolio. After around age 85, however, the 100% stock and 50/50 portfolios significantly outperformed the 100% bond portfolio (although it's important to note that many retirees may not have survived to their mid 80s if they started their retirement in 1929 because the average life expectancy was lower in 1929 than it is now). The 100% bond portfolio also outpaced inflation until age 92.

**Figure 2. Annual amount of nominal RMD income for a 30-year retirement starting in 1929 for three asset allocations. Example is for a married couple age 65 with \$400,000 in starting assets.**

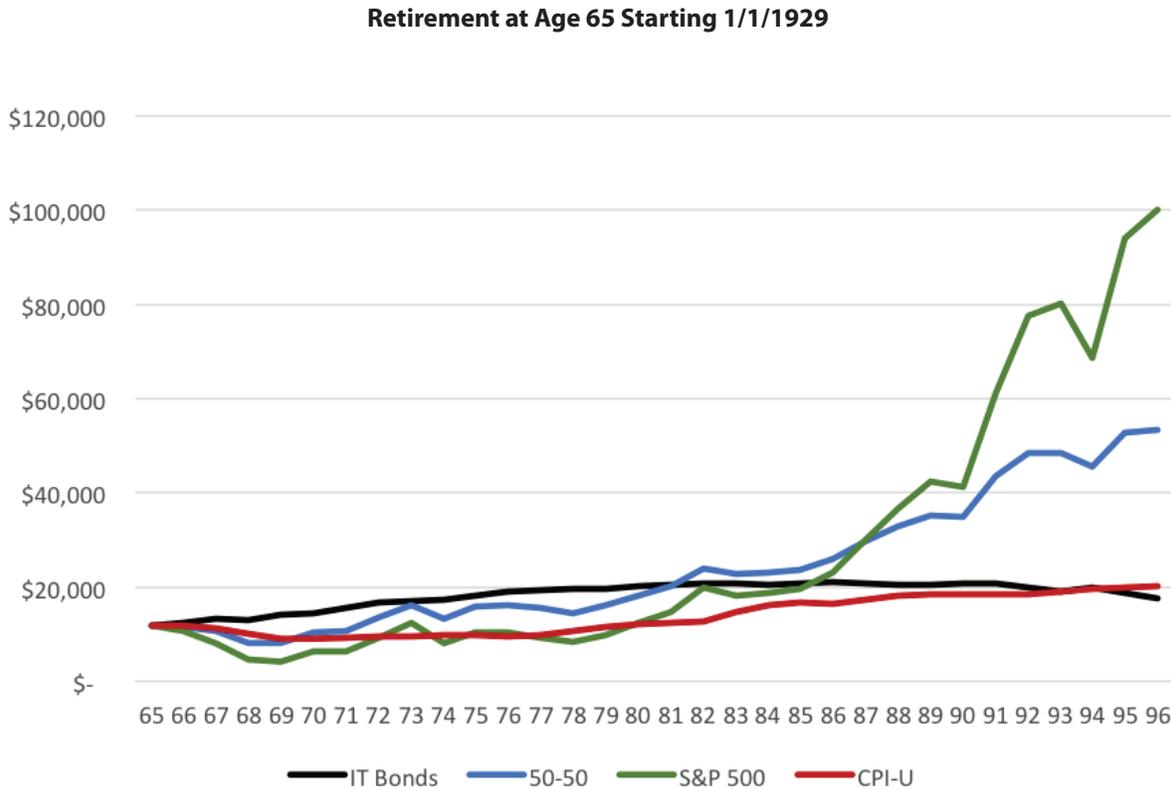


Table 2 on the next page compares the dollar amounts of retirement income for selected ages following a retirement at age 65 in 1929 for the three asset allocations. Note that in all cases, the starting retirement annual income at age 65 is \$11,834.

Table 2 shows the significant decreases in retirement income that occurred under the 100% stock portfolio, following the stock market declines in 1929-31, 1937, and 1940-41. This 30-year retirement period also reflected gains investors realized during the stock market runup in the period following WWII, which resulted in increasing retirement incomes late in the retirement period.

**Table 2. Comparing volatility in nominal retirement income amounts for a 30-year retirement starting in 1929**

Age	Annual income with 100% bond allocation	Annual income with 50/50 equity/bond allocation	Annual income with 100% equity allocation
70	\$14,354	\$10,424	\$6,458
75	\$18,265	\$15,825	\$10,521
80	\$20,131	\$18,212	\$12,314
85	\$20,755	\$23,741	\$19,688
90	\$20,739	\$35,060	\$41,237

For this particular 30-year retirement period, investment in bonds would have been the better asset allocation, generating more income throughout most of the retirement period compared to the other two portfolios. This is the exact scenario that causes the fear that older workers and retirees have about investing in the stock market.

If you want to review more retirement income projections for other 30-year retirement periods, see Appendix A of this bonus chapter. It contains a series of similar graphs for 30-year retirements beginning in 1939, 1949, 1959, 1969, and 1979. These periods represent a variety of investment scenarios, including periods of high inflation, deflation, stock market declines, and stock market runups. Some of these scenarios happened early in the retirement period, while some happened late, but all of them affected investment performance in some way.

Appendix A also contains a line graph showing retirement incomes for a retired couple who retired on January 1, 2008, just before the stock market crash that occurred later that year.

Note: Portions of this bonus chapter have been extracted from a recent research report, *Viability of the Spend Safely in Retirement Strategy*, which is available for download on the publications page of the Stanford Center on Longevity's website. I was one of three researchers who produced that report. <http://longevity.stanford.edu/2019/07/08/viability-of-the-spend-safely-in-retirement-strategy/>

Here are a few general observations and conclusions my fellow researchers and I drew from that report, as well as from the two graphs in this bonus chapter and the series of graphs in Appendix A:

- *Most of the time but not always*, a 100% allocation to stocks produced more income than a 100% investment in bonds or the 50/50 portfolio. For some 30-year retirements, stocks produced dramatically higher incomes.

## Stock Investing in Retirement: Opportunity and Risk

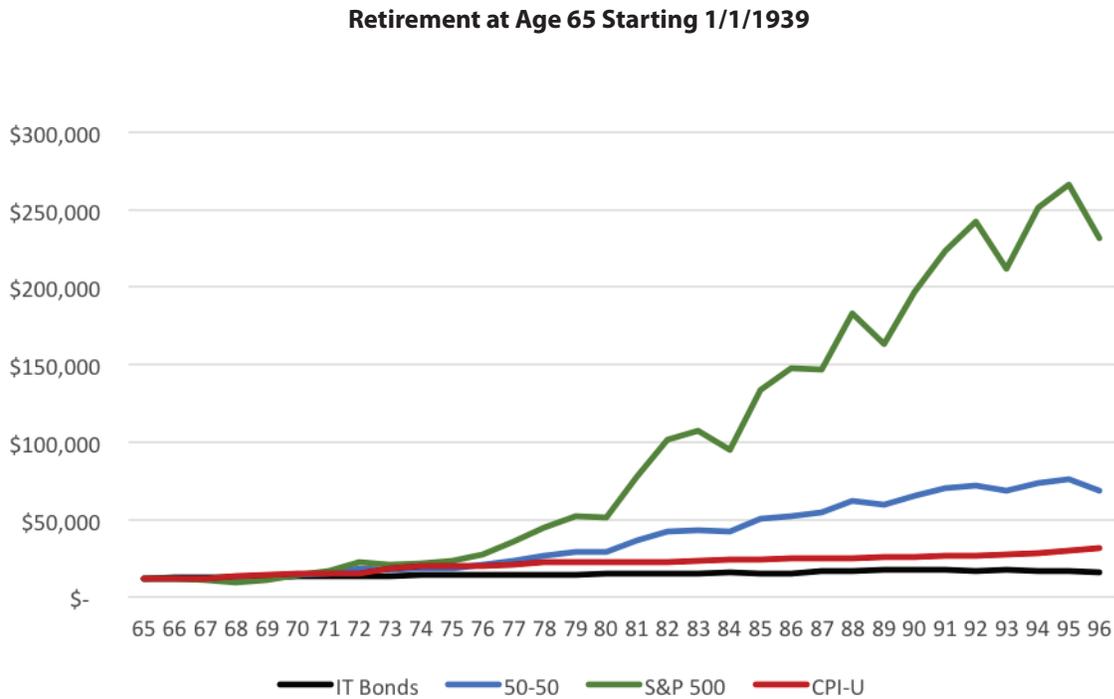
- *Most of the time but not always*, the 50/50 portfolio produced more income than the 100% bond portfolio and less income than the 100% stock portfolio. For all the retirement periods analyzed, the 50/50 portfolio produced a less volatile pattern of retirement income than the 100% stock portfolio. This suggests that a balanced mutual fund or target date fund represent a compromise between the two extreme asset allocations.
- *Most of the time but not always*, the 100% bond portfolio outpaced inflation.

Note that these conclusions are based on historical stock market returns that have been tracked since 1926. One potential disadvantage of using historical returns to illustrate potential volatility is that they may not be representative of future returns, given the current state of interest rates, inflation, and stock market valuations. Our full report, *Viability of the Spend Safely in Retirement Strategy*, contains analyses and a discussion that explore these issues in more detail.

It's well worth your time to understand the potential rewards and risks that come with investing in the stock market during your retirement. You'll want to balance seeking growth in your retirement income—to help you keep up with inflation—with the ability to sleep at night without worrying about fluctuations in the stock market.

## Appendix A Figure A-1

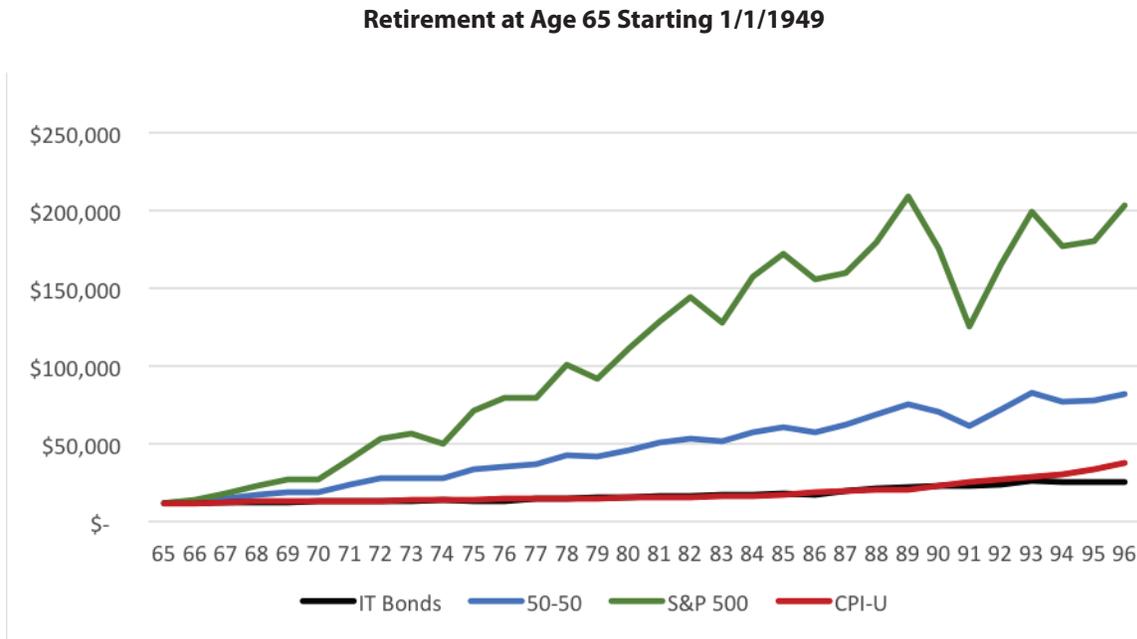
**Figure A-1. Annual amount of nominal RMD income for a 30-year retirement starting in 1939 for three asset allocations. Example is for a married couple age 65 with \$400,000 in starting assets.**



During the first 10 years of the above noted retirement period, there weren't significant differences in the retirement incomes that were generated under the three different asset allocations despite the fact that this period years included the disruption of WWII. Significant stock returns during the post WWII era produced significant increases in retirement incomes after around age 75 for the 100% stock portfolio and the 50/50 portfolio. Throughout the entire 30-year retirement period, the income produced by bond investments barely outpaced inflation.

**Appendix A**  
**Figure A-2**

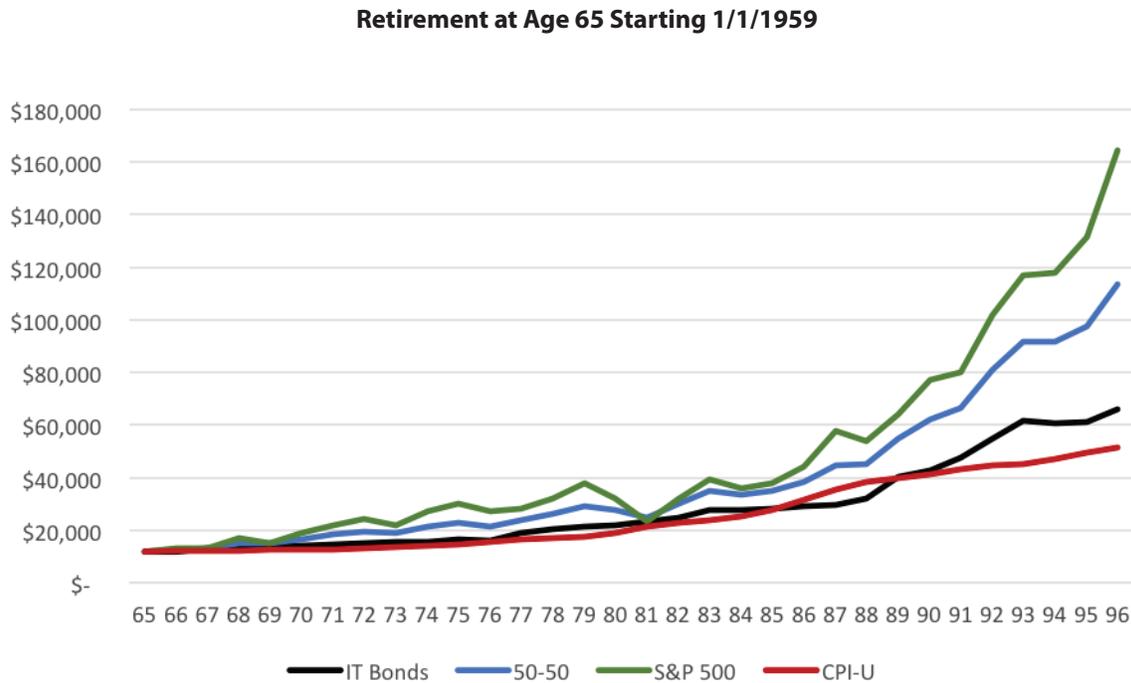
**Figure A-2. Annual amount of nominal RMD income for a 30-year retirement starting in 1949 for three asset allocations. Example is for a married couple age 65 with \$400,000 in starting assets.**



Significant stock market returns during the post WWII era produced increases in retirement income early in this 30-year retirement period; these increases lasted throughout the entire 30-year retirement period. The income generated by bond investments kept pace with inflation.

## Appendix A Figure A-3

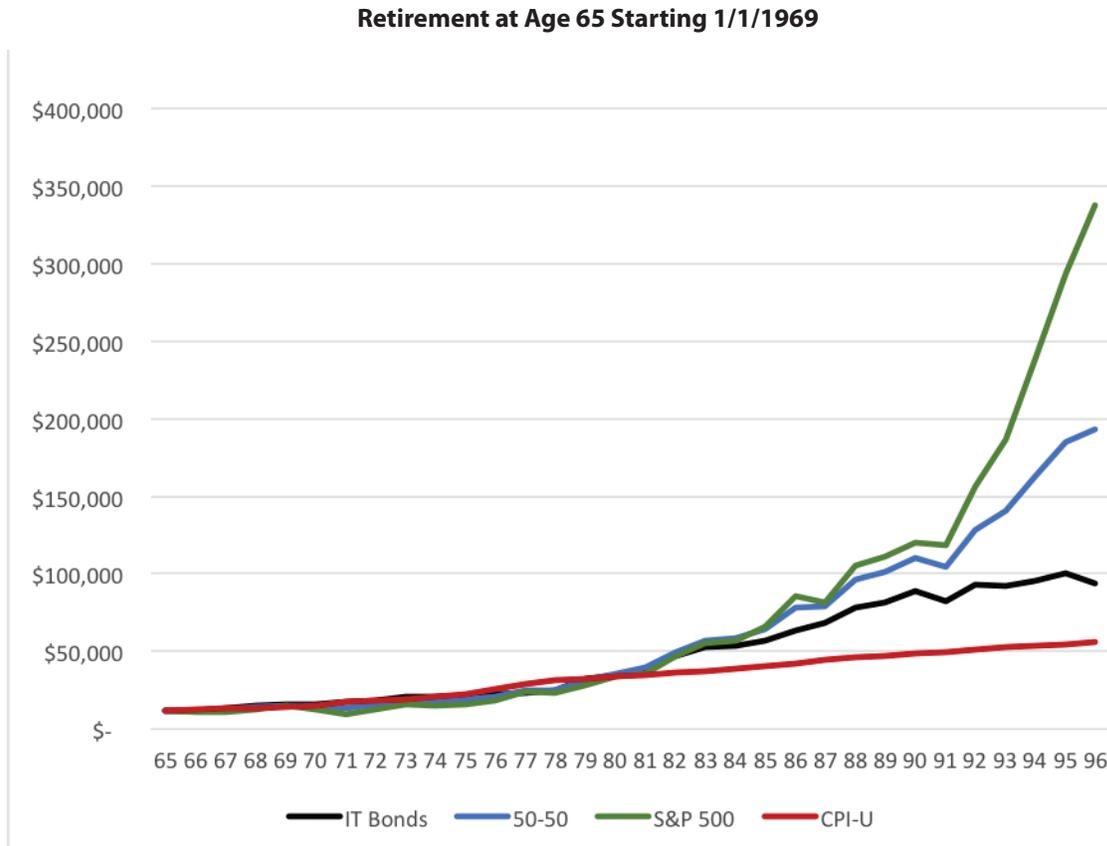
**Figure A-3. Annual amount of nominal RMD income for a 30-year retirement starting in 1959 for three asset allocations. Example is for a married couple age 65 with \$400,000 in starting assets.**



The 1960s included three years of negative returns in the stock market, while both 1973 and 1974 produced double-digit losses in the market. These losses tended to suppress increases in retirement income due to stock investments throughout most of the retirement period. In spite of these periods of stock market losses, the 100% stock portfolio still produced higher retirement incomes than the other portfolios throughout the retirement period and by significant amounts when the investors were in their late 80s and 90s. Income from investment in bonds barely kept up with inflation.

**Appendix A**  
**Figure A-4**

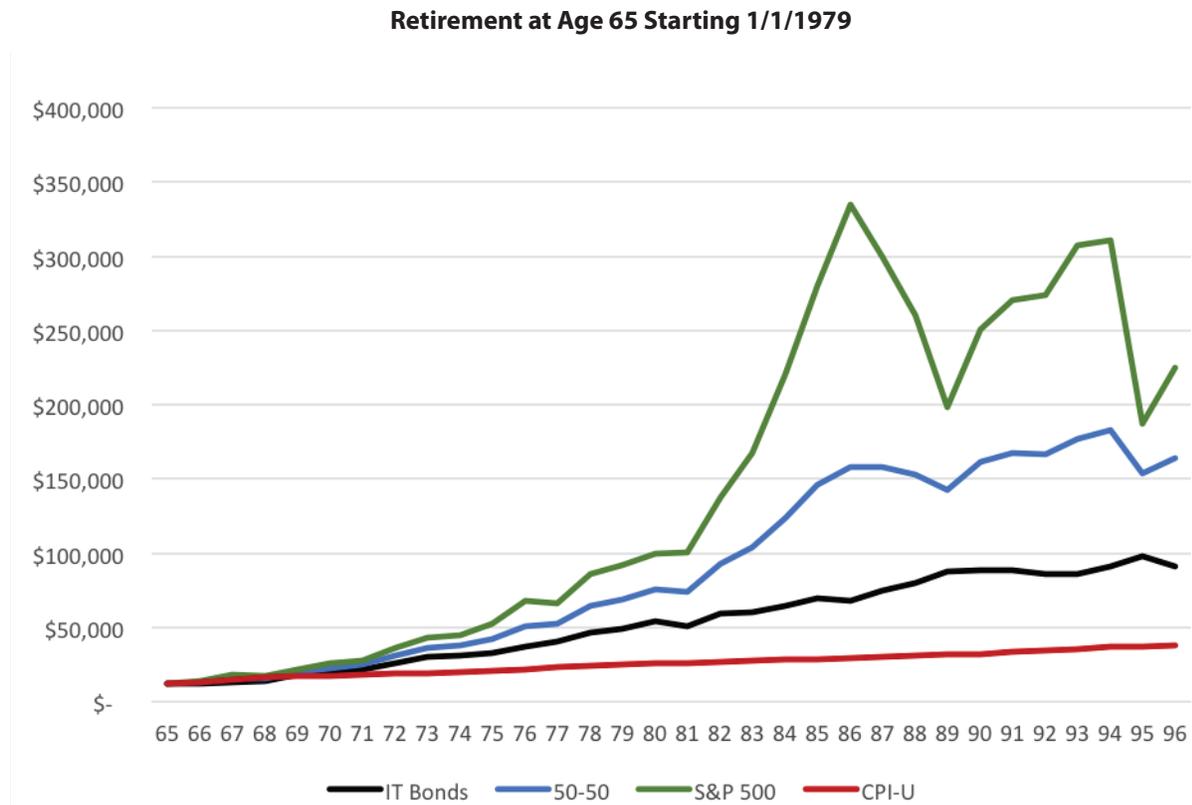
**Figure A-4. Annual amount of nominal RMD income for a 30-year retirement starting in 1969 for three asset allocations. Example is for a married couple age 65 with \$400,000 in starting assets.**



Because of double-digit losses in the stock market in both 1973 and 1974, investments in stocks produced lower income compared to investment in bonds until age 77. The income from stocks during this period often didn't keep pace with inflation, which was high throughout the 1970s and early 1980s. The combination of stock market declines and high inflation is a scenario that many older workers and retirees are often fearful of. Investment in bonds roughly kept pace with inflation until this couple was in their early 80s, when their income began to outpace inflation.

## Appendix A Figure A-5

**Figure A-5. Annual amount of nominal RMD income for a 30-year retirement starting in 1979 for three asset allocations. Example is for a married couple age 65 with \$400,000 in starting assets.**



Significant stock market returns throughout the 1980s and 1990s produced much higher income from stock investments, compared to bond investments, in the above noted period. This 30-year retirement period also included the runup in the stock market in the late 1990s, followed by the stock market crash in 2000-2002 due to the tech bubble bursting. In spite of significant stock market losses during this period, income from stock market investments still significantly exceeded income from the other asset allocations due to the long period of positive stock market returns that preceded the 2000-2002 crash. The very end of this retirement period also included the 2008 crash, although the income amounts still significantly exceeded income under the other portfolios.

Bonds also produced high returns throughout this period due to the long-term decline in interest rates from the highs in the late 1970s and early 1980s. As a result, income from bonds also outpaced inflation. This scenario demonstrates that good returns early in the retirement period can provide lasting positive effects throughout retirement.

**Appendix A**  
**Figure A-6**

**Figure A-6. Annual amount of nominal RMD income for an 11-year retirement starting in 2008 for three asset allocations. Example is for a married couple age 65 with \$400,000 in starting assets.**



The stock market crash in 2008 produced an immediate decline in the income being generated by the 100% stock portfolio. However, due to the quick and significant stock market recovery, the income from the 100% stock portfolio exceeded this couple’s income from the 100% bond portfolio by age 71, and it generated significant increases thereafter.