

THE PROCESS OF MANAGING RETIREMENT INCOME PRESERVING PURCHASING POWER



Given the ongoing advances in medical research, a client considering a retirement plan should prepare for the possibility of a retirement that could last 30 or 40 years. Over this lengthy span of time, the steady erosion of purchasing power due to the effects of inflation should be of more concern to retirees than shorter-term market volatility.

The road of retirement should be paved with more than good intentions. Soon-to-be retirees need to develop and follow a retirement income plan that balances current lifestyle and long-term sustainability of the retirement portfolio. The *Road of Retirement* series provides some best practices for accomplishing this balance.

Purchasing power is the value of a dollar in correlation to the amount of goods or services that it can buy at a given time. This is very important to retirees because, all else being equal, inflation can steadily erode the amount of goods and services that a dollar can purchase over time.

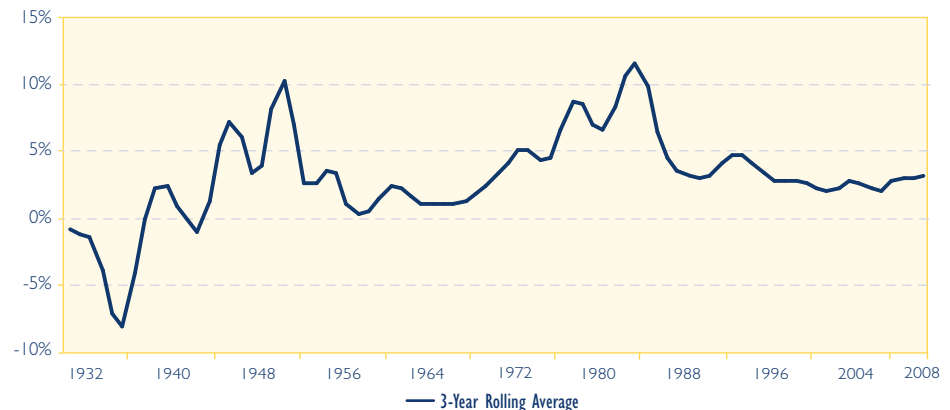
Inflation is typically measured by changes in the consumer price index (CPI) maintained by the U.S. Bureau of Labor Statistics (BLS). Although there are several indices maintained, the one most commonly referred to is the CPI-U, which measures the inflation for all urban consumers. For the 83-year period of 1926–2008, average annual inflation has been 3.15%. However, as illustrated in **figure one**, inflation for shorter periods can be quite different.

Recently, the BLS has begun compiling an experimental index for elderly consumers (65 years of age and older), referred to as the CPI-E. This index is designed to bet-

ter reflect the spending habits of elderly consumers. For the 25 years covered by the CPI-E, the average annual increase has been 3.33% versus 3.11% for the CPI-U Index, which seems to indicate that elderly consumers are affected more by inflation than the average consumer.

Baby-boomer retirees may be particularly susceptible to the eroding effects of inflation, given that they will be less likely than past generations to have some form of pension that could be indexed for inflation. This generation is relying more on savings accumulated in 401(k), 403(b), IRA, and after-tax savings accounts to support them in retirement. Unless these savings are prudently invested during retirement to allow the income stream to grow at a pace comparable with the increase in inflation, purchasing power will be diminished. To illustrate this concept, let's use a simple hypothetical case of a retiree who has \$1 million in retirement savings and has decided to spend the

FIGURE 1. CHANGES IN THE ALL URBAN CONSUMER PRICE INDEX (CPI-U) - 1926 TO 2008

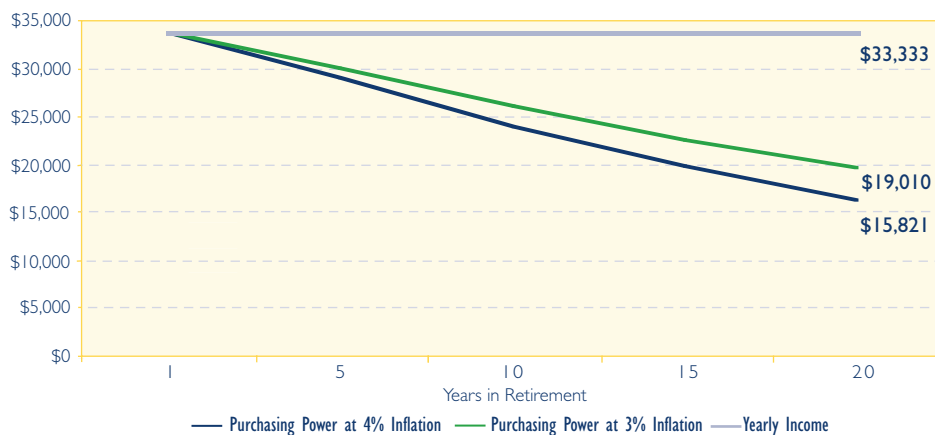


Source: Thornburg Investment Management



amount evenly over a 30-year period (\$33,333 per year). The retiree also decides not to invest the money to ensure safekeeping. Over the next 20 years, at an average annual inflation rate of 3%, purchasing power drops by 42% to the equivalent of \$19,010 per year; and if inflation runs at 4% annually, purchasing power declines by 52% to \$15,821. Imagine retiring at age 62 and by age 82 only being able to spend the equivalent of \$15,821 per year in today's dollars!

FIGURE 2. ERODING PURCHASING POWER FROM INFLATION



Source: Thornburg Investment Management

For retirees, risk should be viewed as the probability of not providing for a sustainable 30-year retirement. In the example in **figure two**, the retiree believes that they are being risk averse by not being invested, and is completely exposed to the steady eroding effects of inflation. Therefore, under this scenario the only option for keeping pace with inflation is to spend a little more of the savings each year to cover the increase in the cost of living, which will result in the retirement savings being depleted earlier than planned.

The typical baby-boomer who is looking to retire in the coming years will more than likely want to use a higher initial spending rate than 3.33% (\$33,333 divided by \$1 million in retirement savings), used in the example above. Often, retirees will choose a withdrawal rate of 4% to 5% with an annual cost of living adjustment to account for inflation. One key factor that retirees should consider is how much investment return will be needed to support their desired withdrawal level. Knowing what minimum return will be required to achieve a retirement plan is a key piece of information that every retiree should know. We will refer to this minimum return required as the “real return hurdle”, which is the minimum return, after accounting for fees, expenses, and taxes,⁽¹⁾ needed to provide the time frame, spending level, and legacy amount chosen for the retirement plan.

To calculate the real return hurdle, there are three basic variables that a retiree needs to factor: the length of time to be spent in retirement; the initial spending rate desired; and a legacy, if any, that the retiree wishes to leave. Each of these variables is described below.

- **Time Frame** – the longer a retiree plans for their retirement to last, the more investment earnings are needed to support it. For retirement planning purposes, most advisors will use a minimum of 30 years, but in some instances 40 years may be even more realistic.
- **Spending Rate** – the first year’s after-tax spending amount (say \$40,000) divided by the total retirement savings (say \$1 million) for a 4% initial spending rate.
- **Legacy** – how much of the initial retirement savings account

is desired to be left as a gift to family members or charity upon the end of the retirement period.

Combining these three factors and preparing a simple cash flow model yields a real return hurdle (*after the cost of inflation, investment expenses, and taxes*) that must be achieved or exceeded each year to provide a retirement that will sustain itself for 30–40 years and beyond. The following grid illustrates the real return hurdle at a 4% and 5% initial spending rate assuming that all the retirement savings will be used to support the retirement plan with no legacy amount specified.

FIGURE 3. REAL RETURN HURDLES

| Plan Duration | 4% Spending Rate | 5% Spending Rate |
|---------------|------------------|------------------|
| 30 Years | 1.22% | 2.84% |
| 40 Years | 2.52% | 3.93% |

For instance, a retiree with a \$1 million retirement portfolio who wishes to plan for a 30-year retirement and desires to spend \$50,000 (5%) a year after taxes and indexes to inflation, would need to achieve a real return hurdle of 2.84%. Reduce the initial spending level to \$40,000 (4%) and the real return hurdle drops to 1.22%. Keep in mind that when we are looking at after-tax spending amounts here, this assumes that any taxes due each year are paid from the assets in the investment portfolio, not from the spending amounts being taken from the portfolio.

For a majority of the baby-boomers retiring in the coming years, most, if not all, of the retirement savings accumulated during retirement plus the future earnings on these savings will be spent over their planned retirement period. The concept of spending some, if not all, of the retirement savings to fund a retirement will be the norm, not the exception. For these retirees, a legacy amount will be available only if they do not use all their financial resources due to an unusually strong investment market or if spending amounts are actually less than planned. However, for those retirees who want to plan a legacy at the beginning of the retirement plan, the

following analysis shows what real return hurdle would be required to provide for a sustainable spending plan, plus leave a legacy at the end of the 30-year plan. Needless to say, higher returns are required to achieve both objectives, as illustrated in **figure four**. The planned legacy amount in the left column is expressed as a percentage of the initial retirement savings and is not increased to account for inflation.

FIGURE 4. REAL RETURN HURDLES TO LEAVE A LEGACY

| Legacy | 4% Spending Rate | 5% Spending Rate |
|--------|------------------|------------------|
| 100% | 4.00% | 5.00% |
| 75% | 3.52% | 4.60% |
| 50% | 2.94% | 4.13% |
| 25% | 2.21% | 3.56% |

For a retiree who wants an initial spending rate of 4% and also desires to leave 25% of the initial portfolio value as a legacy, this will require a real return hurdle of 2.21%, as compared to 1.22%, from **figure three**, showing no legacy. As the desired legacy amount increases, so does the real return hurdle required. Note that this chart pertains to a 30-year retirement plan, so if a 40-year plan is desired, these real return hurdles will go even higher.

Let's use these real return hurdles in a hypothetical example assuming that a retiree wishes to use the following plan assumptions.

- **Time Frame** – 30-year retirement period.
- **Spending Rate** – 4% initial spending rate, indexed to inflation.
- **Legacy** – 25% of initial retirement savings.

Per **figure four**, the retiree has a 2.21% real return hurdle to achieve these goals. The next step is to assess the retiree's costs. Let's assume the following:

- **Investment Expenses** – the retiree is paying the financial advisor 1% of their assets under management per year. All other costs are included in the net return.
- **Tax Cost** – the tax accountant and financial advisor estimate that a 25% tax bracket/cost is a good estimate.
- **Annual Inflation** – the long-term CPI-E annual inflation rate of 3.33% for retirees will be assumed to continue into the future.

Now that we know the retiree's cost, converting a nominal return to a real return for comparison to the real return hurdle is straightforward. Assume a portfolio allocation is being considered that has a targeted 8% nominal return. The nominal return, in the hypothetical investment in **figure five**, is converted into a real return of 1.92%. Will this will be sufficient to meet or exceed the real return hurdle of 2.21%?

Comparing the real return of 1.92% to the 2.21% real return hurdle the retiree needs to achieve gives you a quick gauge

FIGURE 5. REAL RETURN HURDLE VERSUS NOMINAL RETURN

| | |
|-----------------------------------|--------|
| Targeted Nominal Return | 8.00% |
| Less: | |
| Investment Expenses | -1.00% |
| Return After Investment Expenses | 7.00% |
| Estimated Tax Cost* | -1.75% |
| Net Return after Expenses & Taxes | 5.25% |
| Annual Inflation (CPI-E) | -3.33% |
| Real Return | 1.92% |

* Assumes investment expenses are tax deductible and 25% of 7.00% equals 1.75%.

that the plan is probably not realistic. Either the retiree will need to lower her expectations for the amount of the legacy, lower spending expectations or the portfolio needs to include more investments with the possibility for higher returns. In doing this analysis, it is important to remember that the two most important variables, nominal returns and inflation, are based upon historical experience and are impossible to accurately predict for the future. With that being said, historical information is the only information we have for this purpose.

Once the analysis is complete, retirees should examine investment returns published by the financial press in a new light. They should be comparing how these investments may help achieve the long-term retirement plan's real return hurdle. In

FIGURE 6. COMMON ASSET CLASSES USED IN RETIREMENT PORTFOLIOS

| Asset Class | Five-Yr Returns 2004-08 | Ten-Yr Returns 1999-08 | Twenty-Yr Returns 1989-08 |
|------------------------------------|-------------------------|------------------------|---------------------------|
| Large Company Stocks | -2.19% | -1.38% | 8.43% |
| Small Company Stocks | -2.71% | 6.44% | 9.78% |
| Long-Term Corporate Bonds | 5.81% | 6.50% | 8.65% |
| Long-Term Government Bonds | 10.36% | 8.42% | 10.03% |
| Intermediate-Term Government Bonds | 5.88% | 6.24% | 7.48% |
| U.S. Treasury Bills | 3.04% | 3.22% | 4.25% |
| Inflation | 2.67% | 2.52% | 2.82% |

Source: 2009 Ibbotson SBBI Classic Yearbook

Large Company Stocks are represented by the S&P 500 Index. Small Company Stocks are represented by the DFA U.S. 9-10 Small Company Portfolio from January 1982–March 2001 and by the DFA U.S. Micro Cap Portfolio from April 2001–Present. Long-Term Corporate Bonds are represented by the Citigroup Long-Term High Grade Corporate Bond Index. Long-Term Government Bonds, Intermediate Government Bonds, and U.S. Treasury Bills are represented by one-bond portfolios. Inflation is represented by CPI-U.

Definitions of these indices can be found on page 4. Past performance does not guarantee future results.

figure six are the five-, ten- and twenty-year trailing nominal returns for some of the more popular asset classes used to construct retirement portfolios.

A couple of things become readily apparent when reviewing these asset classes. First, a retiree with the retirement plan discussed above cannot invest solely in U.S. Treasury Bills because they prefer the lower historical risk of the asset class. Deducting just the 3.33% average cost of inflation from these returns leaves the retiree woefully short of the real return hurdle required and, after deducting tax and investment expenses, would actually result in a negative real return. The retiree is losing purchasing power by that percentage each and every year. Second, to realize just how hard it has been, especially recently, to generate a real return sufficient to sustain a reasonable spending level, let alone leave a sizeable legacy, take a look at the five- and ten-year returns for these asset classes. Using a knowledgeable financial advisor will be critical to creating and monitoring a retirement portfolio to meet the plan objectives.

In summary, planning for a 30- to 40-year retirement period makes preserving purchasing power of paramount importance. Being able to see how the retirement plan variables relate to a real return hurdle is a great first step. Going through the process of identifying each retiree's unique cost structure, including inflation assumptions, investment expenses, and taxes, will determine how the real return from an investment compares to the real return hurdle needed to accomplish the plan.

Please note that any discussion related to average returns over a long period of time, such as a 30- to 40-year retirement, needs to be accompanied by a good understanding of the order in which returns are realized, called the "sequence of returns". For a retiree who is liquidating a small amount of their retirement savings each year to support their expenses, the order in which returns are realized is very important. We have addressed this sequence of return issue as a separate piece in this kit and it should be deemed an integral part of the discussion on preserving purchasing power.

Disclosures:

Following this strategy does not assure or guarantee sustainability of a retirement portfolio, better performance, or protect against investment losses.

Investing carries risks, including possible loss of principal. Investments are not FDIC insured, nor are they deposits of or guaranteed by a bank or any other entity.

Diversification does not assure or guarantee better performance and cannot eliminate the risk of investment losses.

Expected returns cannot be guaranteed and future returns cannot be predicted. Past performance does not guarantee future results.

The views expressed in this article are subject to change.

Notes:

(1) See Thornburg's June 2009 "Study of Real Real Returns" (returns after inflation, taxes, and investment expenses) for additional insights into what asset classes have provided the more attractive *real* real return over time.

A cash flow model uses the amount of initial savings available, the annual cash flow needed and legacy desired to solve for the internal rate of return.

The Consumer Price Index (CPI) measures prices of a fixed basket of goods bought by a typical consumer, including food, transportation, shelter, utilities, clothing, medical care, entertainment and other items. The CPI, published by the Bureau of Labor Statistics in the Department of Labor, is based at 100 in 1982 and is released monthly. It is widely used as a cost-of-living benchmark to adjust Social Security payments and other payment schedules, union contracts and tax brackets. Also known as the cost-of-living index.

The performance of any index is not indicative of the performance of any particular investment. Unless otherwise noted, index returns reflect the reinvestment of income dividends and capital gains, if any, but do not reflect fees, brokerage commissions or other expenses of investing. Investors may not make direct investments into any index.

Nominal return is the rate of return on an investment without adjusting for inflation.

Before investing, carefully consider the investment goals, risks, charges, and expenses. For a prospectus containing this and other information, contact your financial advisor. Read it carefully before investing.

Bonds are debt investments in which an investor loans money to an entity (corporate or governmental) which borrows the funds for a defined period of time at a fixed interest rate. Bonds are subject to certain risks including loss of principal, interest rate risk, credit risk, and inflation risk. The value of a bond will fluctuate relative to changes in interest rates; as interest rates rise, the overall price of a bond falls.

Government bonds, or Treasuries, are negotiable debt obligations of the U.S. Government, secured by its full faith and credit and issued at various schedules and maturities. Income from Treasury securities is exempt from State and local, but not Federal, taxes. Treasury bill data is based on a one-bill portfolio containing, at the beginning of each month, the bill having the shortest maturity not less than one month. Intermediate government bond data is based on a one-bond portfolio with a maturity near five years. Long-term government bond data is based on a one-bond portfolio with a maturity near twenty years.

A corporate bond is a debt security issued by a corporation. Corporate bonds are taxable and have more credit risk compared to Treasuries. The Citigroup Long-Term High Grade Corporate Bond Index includes those issues from the Credit Index that have at least 10 years to maturity (long term) but exclude asset-backed securities and non-U.S. sovereign/provincial issues.

A stock is a share in the ownership of a company. As an owner, investors have a claim on the assets and earnings of a company as well as voting rights with the shares. Compared to bonds, stock investors are subject to a greater risk of loss of principal. Stock prices will fluctuate, and there is no guarantee against losses. Stock investors may or may not receive dividends. Dividends and gains on an investment may be subject to federal, state or local income taxes.

Standard & Poor's 500 Stock Index is an index consisting of 500 stocks chosen for market size, liquidity and industry grouping, among other factors. The S&P 500 is designed to be a leading indicator of U.S. equities and is meant to reflect the risk/return characteristics of the large-cap universe.

The DFA Micro Cap Portfolio (formerly U.S. 9-10 Small Company Portfolio) is a mutual fund investing in the smallest 5% of the market universe or smaller than the 1,500th largest US company. The DFA U.S. 9-10 Small Company Portfolio targeted companies in the lowest 9th and 10th deciles ranked by market cap. Small company stocks tend to be less liquid and have greater price fluctuations compared to large company stocks.