

J. V. Bruni and Company

www.jvbruni.com

1528 North Tejon Street

Colorado Springs, Colorado 80907

(719) 575-9880 or (800) 748-3409

Miracle Grow: A Young Adult's Guide to Purchasing Retirement

It's Now or Later

At one time or another, most people save money for something expensive—like a car or a home. But the priciest thing most Americans ever buy—a comfortable retirement—is seldom seen as a big ticket item. Although it's not often stated this way, people actually do “purchase” retirement in the future by saving today. Having the discipline to save—and forego current spending—can make the difference between a comfortable retirement and an impoverished one.

Behavioral economists recognize that even though people want to save for old age, many have a difficult time following through with their good intentions. As the 2005 *Retirement Confidence Survey* (RCS)¹ reported, approximately one-third of workers ages 35 and older are *not* currently saving at all and 51% of workers over age 55 report having less than \$50,000 in savings and investment (not including equity in their primary residence). The drop in the U.S. personal savings rate from over 12% in the early 1980s to under 1% now is a reflection of the struggle Americans have saving to buy an adequate retirement.²

The Price Is Right

Americans should begin a savings program sooner rather than later, because the purchase price of retirement is rising, for several reasons. First, while the average retirement age has ended its long-term decline and is currently stable at age 62, life expectancy continues to climb. Today, a 65 year old American woman can expect to live to age 85, and a man to 82. Thus, a typical retiree will spend almost 20 years drawing on savings. Someone who begins working at age 23 and retires at age 65 will have 42 earning years during which to save for 20 years of retirement—resulting in a work-to-retirement ratio of 2.1, or just over 2 years to fund each year in retirement. In 1950, the ratio was over 5 to 1, when the typical person worked from age 20 to 67 and lived to age 76. With continued medical advances people will live longer, and unless the retirement age rises to keep pace,³ the work-to-retirement ratio will drop further—pushing the price of a comfortable retirement higher.

A second factor increasing the cost of retirement is that retirees, particularly in the early years, tend to lead more active lives than in the past. To the extent that their activities involve travel and entertainment, the cost of retirement is higher. Further, it seems likely that the cost of health care, most heavily demanded by retirees, will continue to escalate faster than inflation.

¹ The RCS is an annual survey that has been conducted since 1994 by the Employee Benefit Research Institute and Mathew Greenwald & Associates.

² Home and investment portfolio appreciation are not included in personal savings; however, appreciation of such assets does represent an increase in one's wealth.

³ According to the RCS, the average worker today plans to retire at age 65, so working longer may slow the decline in the work-to-retirement ratio and reduce the rate at which retirement costs swell.

Finally, there is a trend toward employees having to shoulder a greater portion of their retirement saving, as employers terminate defined-benefit programs and offer defined-contribution (e.g., 401k) plans instead. Placing this responsibility on workers clearly increases their need to save.

Look After Your Own Nest Egg

When contemplating your retirement plan, several important questions arise:

- ✓ How do I build an adequate nest egg?
- ✓ How much can be considered *adequate*?
- ✓ How do I ensure that my nest egg is sustainable throughout retirement?

The third question has been addressed in two previous commentaries on our website. In *The Adaptive 5% Solution*, we suggested that people consider an initial withdrawal rate of 5%, with adjustments up or down based on their portfolio value each January 1st. Then, in *Retirement Nest Eggs . . . Withdrawal Rates and Fund Sustainability*, we examined the past 80 years of stock market and inflation history to determine the sustainability of various inflation-adjusted withdrawal rates. If the future resembles the past, this analysis clarifies the probability of portfolio sustainability during a 20-year retirement.

But for some, particularly younger workers, those commentaries may have put the cart before the horse. So now we'll investigate how to build your nest egg in the first place and offer some thoughts about what size nest egg can be considered adequate.

Adequate Yolk in Your Egg

Common financial advice suggests that to maintain an adequate and comfortable lifestyle, retirees should aim to replace between 70% and 85% of their pre-retirement income. Reasons why a typical retiree does not need to replace 100% of pre-retirement income include:

- the need to save significantly diminishes or ceases entirely during retirement,
- tax rates generally decline as retirees have less income,
- work-related expenses cease, and
- household size falls as children move out and require fewer parental subsidies.

One of the largest expenses to consider in determining an adequate size nest egg is a home mortgage. Since the average American home is valued at over \$250,000, it's not unreasonable to assume that many households incur an expense of about \$1,300 per month in principal and interest.⁴ Retirees who have a home loan presumably need a higher income replacement percentage than those who don't. However, retirees who invested funds instead of paying down a mortgage might have a larger nest egg capable of sustaining a greater replacement ratio in retirement along with a mortgage.

The RCS reported that about half of retirees surveyed currently spend at a rate exceeding 70% of their pre-retirement income. Spending rates differ, not only across people as suggested above, but spending patterns fluctuate during retirement. During the first 7 to 10 years, annual expenditures are about equal to a person's last working years. In the middle retirement years,

⁴ Mortgage payments vary dramatically depending on loan balance and interest rate. The figure used in this paper is hypothetical.

expenditures often decline as older retirees become less active. In the later years, chronic health problems often cause expenditures to rise once again.

Let's Get Real

Drawing on specific numbers, we can address two key questions: How much is enough and how do you get there?

Consider a hypothetical example that you can adjust to match many situations. Suppose that 80% of pre-retirement income is a reasonable replacement rate and that a typical college graduate starts working at age 23 earning a starting salary of \$40,000.⁵ This person works continuously for 42 years and retires at age 65. We anticipate that this worker's actual salary will rise not only due to productivity increases, assumed to be 1% per year,⁶ but also due to inflation. However, since wage increases intended to offset inflation don't increase actual spending power, let's complete all calculations as if inflation never occurred. That is, in the calculations to follow, I treat all dollar figures in "real" (inflation-adjusted) terms. Under these assumptions, this worker's real salary, growing at 1% per year, will rise from \$40,000 to \$60,752 by retirement.⁷

Assuming this retiree aims to replace 80% of pre-retirement income, we calculate the size of an adequate nest egg in Table 1 below. The example includes Social Security and a modest pension⁸ and assumes an annual 5% withdrawal rate over 20 years.

⁵ According to the Census Bureau, the starting salary for a college graduate was about \$40,000 in 2004.

⁶ Over the long term, overall labor productivity has risen about 1 – 1.5% per year.

⁷ If we had not corrected for inflation, the nominal wage would have risen to over \$200,000. Since it is difficult to envision the standard of living such a salary would command 42 years from now, I removed inflation and calculated in real (inflation-adjusted) terms. A \$200,000 salary 42 years from now would provide a standard of living of about \$60,000 in today's prices. Since the worker begins with a \$40,000 salary, this represents a 50% increase in his standard of living over a 42-year working career.

⁸ Since fewer than half of retirees receive pension income, I have used a small figure in this example.

Table 1: Adequate Size Nest Egg Calculation

Pre-retirement annual income	\$61,000
Replaced at 80% ($\$61,000 \times 0.80 \approx \$49,000$)	\$49,000
Less other retirement income: Social Security annual payments	(\$15,000)
Employer pension income	(\$10,000)
Required annual nest egg withdrawal ($\$49,000 - \$15,000 - \$10,000 = \$24,000$)	\$24,000
Adequate nest egg {($\$24,000$ per year) \times (20 years) = \$480,000}	\$480,000 ⁹

Show Me the Money

So how does the hypothetical worker save and invest to achieve the adequate size nest egg of approximately \$480,000 in today's dollars? Returning to the specific example, we can assume the following:

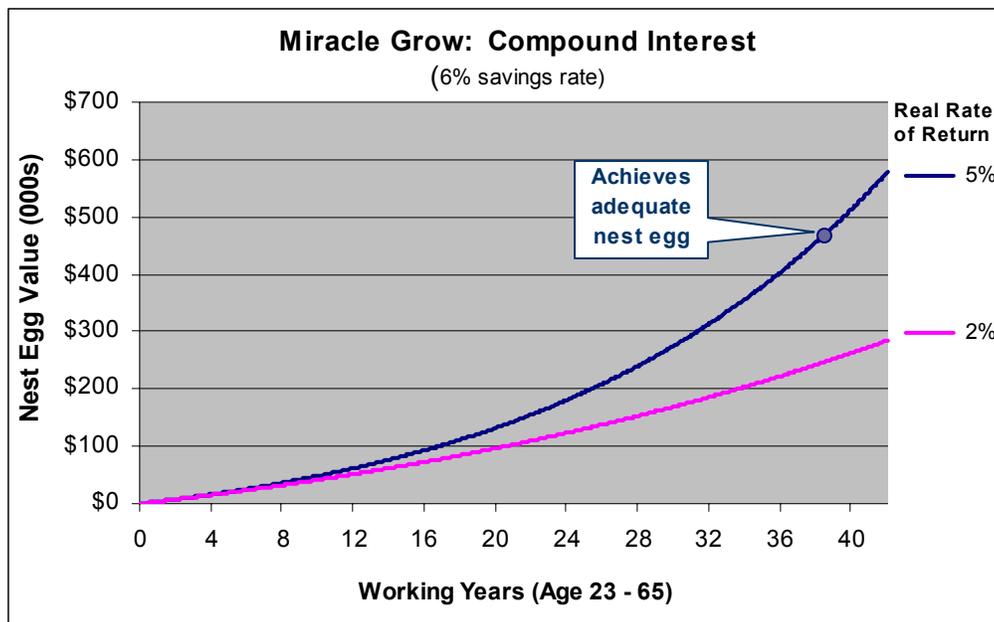
- **Employer Savings Match:** Since about 75% of retirement plans provide an employer match, I have included the most common match in this calculation—50¢ for each dollar contributed by the employee, with the match capped when the employee contributes 6% of earnings. Given this match formula, the effective match is 3% of earnings if the employee saves 6% or more of income.
- **Savings Rate:** From 1950–1990, the average personal savings rate was 7.7%, although recent rates have fallen below 1%. Since the present rates are low and historical rates have been much higher, for a baseline example I include a savings rate of 6% of gross income—which would represent an even higher percentage if computed on “disposable” (after-tax) income. Further, since the match ceiling is attained when employee contributions equal 6% of earnings, some observers have reported this savings rate as common among plan participants.
- **Real Rate of Return on Investment:** Savings are placed in a tax-deferred 401k-type account that earns a *real* rate of return of 5%—for example, if the inflation rate averaged 3% per year, the portfolio would earn an average 8% actual annual rate of return. Since the S&P 500 has averaged 10–11% per year over the past 80 years, an 8% nominal rate of

⁹ Recall that this nest egg is expressed in real terms (today's dollars). Without adjustment for inflation, the required nest egg would be almost \$1.7 million in future dollars. Depending on the nest egg's investment return, it would not necessarily be fully depleted over 20 years.

return (that is, 5% real return when inflation is 3%) seems a reasonable long-term estimate for a diversified equity portfolio.

Under these parameters, the upper (blue) line in Figure 1 below indicates that the hypothetical worker reaches his objective of \$480,000 in his early 60s—after saving and investing for about 39 years. Note the importance of including equities in an investment portfolio. Had the worker limited his portfolio to long-term U.S. government bonds, over the long run his return would have averaged about 5% nominal rate of return—the average since 1926.¹⁰ But, since inflation has averaged 3% over the past 80 years, the annual *real* rate of return would only have been about 2% and the worker would have fallen significantly short (as reflected by the pink line in Figure 1). The 3% difference in the rates of return results in vastly different retirement situations—the investor who constructs a diversified portfolio emphasizing equities enters retirement more than twice as well off (\$578,000 versus only \$284,000). No wonder Albert Einstein called the power of compounding one of the greatest wonders of all time!

Figure 1



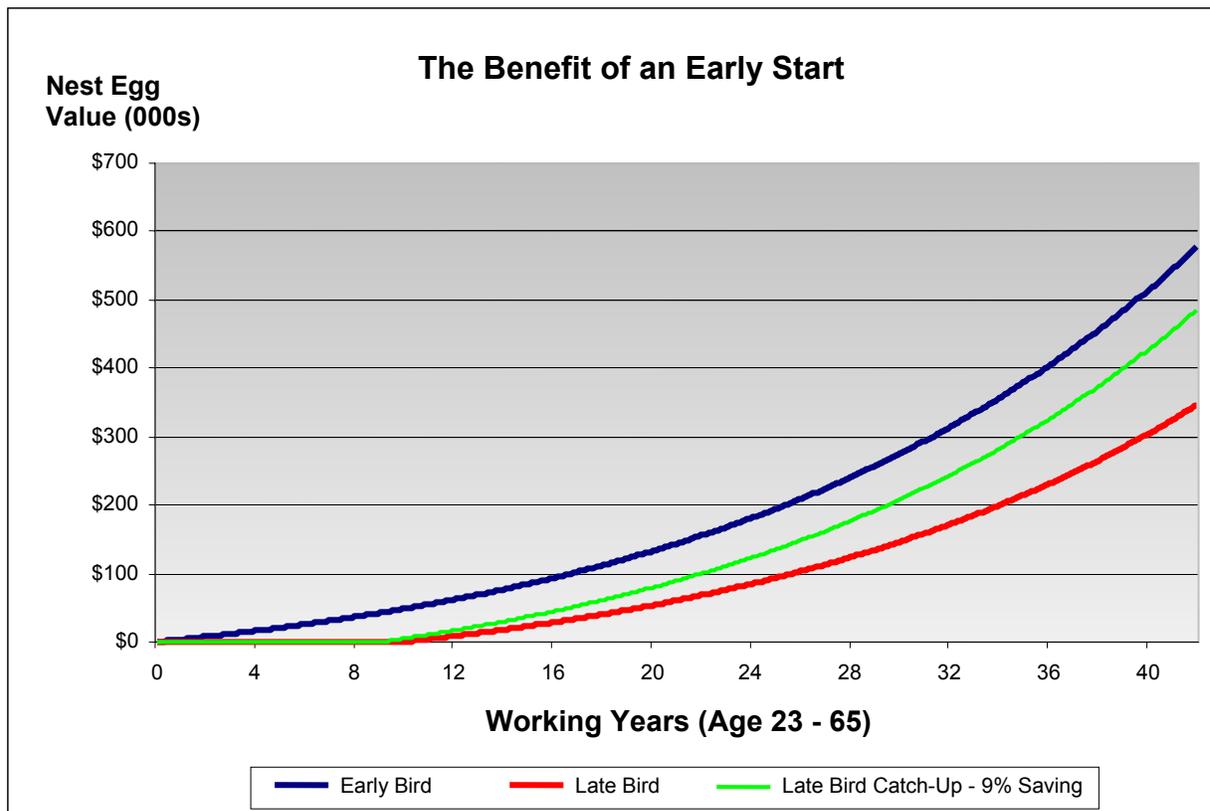
The Early Bird

Due to the power of compounding, the earlier a program of saving and investment begins, the better. As an example, consider two hypothetical workers—the Early Bird begins saving and investing in equities at age 23, as depicted in the example above and shown by the blue line in Figure 2. Like many Americans, the Late Bird does not begin an investment program until age 33—waiting 10 years to get started—as reflected by the red line. The Late Bird’s nest egg grows to only \$347,000, far short of adequate and well below the Early Bird’s \$578,000 portfolio. Even if the Late Bird saves 9% (green line) instead of 6% for the remaining 32 years of his career, he is unable to catch up to the Early Bird, although he does (barely) acquire an adequate

¹⁰ If money market funds and certificates of deposit were included along with government bonds, the long-term average nominal rate of return would be about 4% instead of 5%.

nest egg. As you can see, the price of waiting 10 years to start saving for retirement is quite high. Indeed the Early Bird gets the worm!

Figure 2



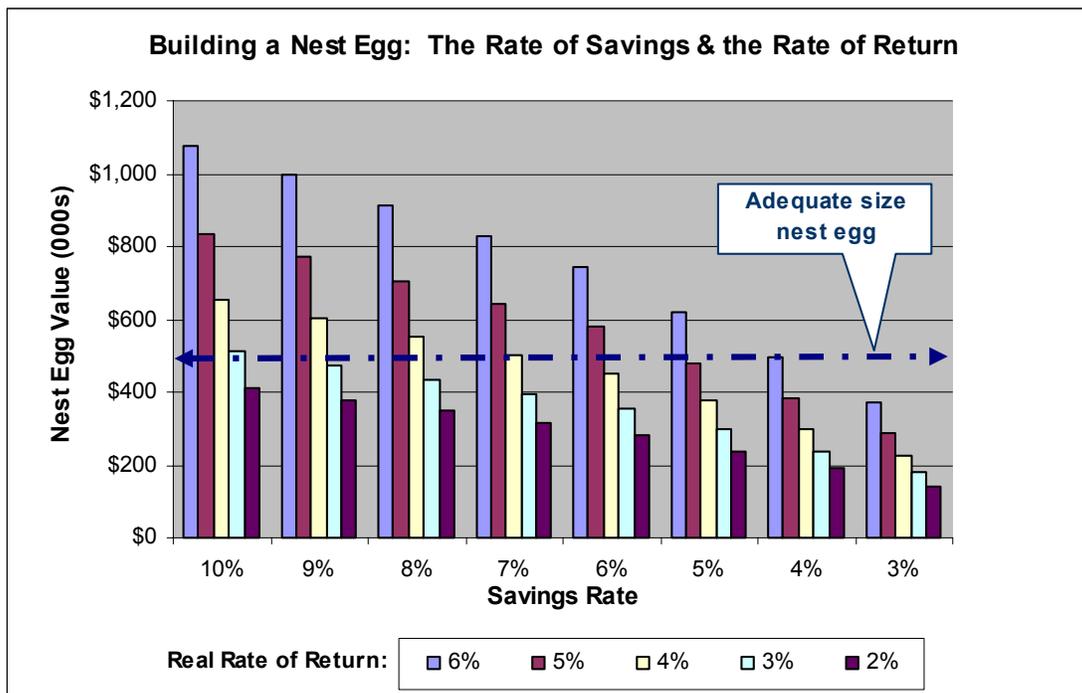
Save Early, Save Enough and Watch Your Return

The moral is clear. The three most important steps to financial freedom in retirement are:

- ❖ Resist the temptation to spend—begin saving and investing in a disciplined way as early as possible.
- ❖ Save enough—few people complain about having too much money in retirement. A worker who starts investing at age 23, but saves too little, will struggle to achieve financial goals. As Figure 3 shows, a savings rate of less than 4% fails to generate an adequate nest egg, even with a real rate of return of 6% over 42 years—strong performance by historical standards. By increasing their savings rate, investors can substantially improve their chances of accumulating adequate nest eggs.
- ❖ Finally, recognize the power of compounding. A relatively small disparity in real rates of return generates significantly different portfolio values over the long run. For example, if the worker depicted in Figure 3 saves 6% over 42 years and achieves a real rate of return just *one* percentage point higher—6% instead of 5%—he accumulates almost 30% more. Investors should mind the gap between rates of return and consider a diversified portfolio emphasizing equities to achieve better long-term performance.

- I caution readers, however, that few investors actually achieve the 5–6% real rates used in these examples. Even though the S&P 500 averaged a 13.1% real annual rate of return during the 1984–2000 bull market, the average stock mutual fund investor achieved only a 2.1% annual real return.¹¹ Experts observe that too often investors chase hot funds, forgetting that this year’s star is often next year’s dog. Investors often end up buying high and selling low, substantially reducing their returns.

Figure 3



I Think I Can . . . I Know I Can

Most children love the story of *The Little Engine That Could*, because against all odds, the locomotive was able to climb a seemingly insurmountable mountain. The same is true with financial goals—while they may appear unattainable in the beginning, disciplined saving and investment get the job done.

No two households face the same set of circumstances, and it’s unlikely any individual situation matches the precise examples in this article. However, the fundamental principles remain valid for purchasing any retirement—start early, save enough, and keep an eye on the rate of return.

¹¹ In nominal terms, the S&P averaged 16.3% over this period, while mutual fund investors averaged only a 5.3% annual return according to a study done by Dunbar, Inc.