

Getting Rich Slowly: A Guide to Purchasing Retirement

By Dr. John R. Brock

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 to be “purchased.” Although it’s not often stated this way, people actually do purchase a future retirement by saving today. Having the discipline to save—and forego current spending—can make the difference between a comfortable retirement and a not-so-comfortable one.

Behavioral economists recognize that even though people want to save for their golden years, many have a difficult time following through with their good intentions. As the 2013 *Retirement Confidence Survey (RCS)*¹ reports, approximately 25% of workers age 25 and older with incomes between \$35,000 and \$75,000 state that they are *not* currently saving at all. The RCS further reports that 57% of workers indicate they and their spouse combined have less than \$25,000 in total savings (excluding their primary home and defined benefit pension plan), including 28% with savings less than \$1,000. The drop in the U.S. personal savings rate from over 12% in the early 1980s to about 4% today is a reflection of the struggle Americans have saving enough.

The Price Is Rising

Americans should begin a savings program sooner rather than later, because the effective price of retirement is rising, for several reasons. First, while the average retirement age of 61 is likely to rise in coming years, life expectancy will rise as well. Today, the average 65-year-old American woman can expect to live to age 86, and a man to 84. In fact, for a married couple both currently 65 years old, there is a 45% chance that one spouse will live to age 90 and an 18% chance that one of them will live to age 95.² In 1950, when the typical person worked from age 20 to 67 and lived to be 76, the average worker had over 5 years of employment to save for each year of retirement. Today, however, a person who starts work at age 25 and retires upon reaching age 66 works 41 years and needs to save for 20 – 30 years of retirement for one or both spouses. This yields a work-years-to-retirement-years ratio of about 2 or less. With continued medical advances, people will live longer, and unless the retirement age rises to

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

² Estimates provided by the Society of Actuaries.

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, living expenses in retirement will be higher than before. Further, it seems likely that the cost of health care, most heavily demanded by retirees, will continue to escalate at the rate of inflation or higher.

Finally, there is a significant 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., 401(k)) 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 available 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—An Updated and Expanded Analysis*, we examined the past 87 years of stock market, bond 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 is considered adequate.

³ According to the RCS, the average worker in 2013 plans to retire at age 66, so working longer may slow the decline in the work-to-retirement ratio and reduce the rate at which retirement costs swell.

Adequate Yolk in Your Egg

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

- “savings expense” 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 nest egg is a home mortgage. Since the average American home is valued at about \$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 sufficient to continue paying on a home mortgage.

How much any given retiree will need varies considerably based not only on differences in spending rates across people as suggested by the factors listed above, but also due to fluctuations in spending patterns during retirement. During the first 7 – 10 years, annual expenditures may be about equal to a person’s last working years, due to relatively high travel and entertainment activity. In the middle retirement years, expenditures often decline as older retirees become less active. In the later years, chronic health problems often cause expenditures to rise once again.

Due to the wide range of personal circumstances and lifestyles, recent empirical research reported by David Blanchett of Morningstar Investment Management notes that the actual replacement ratio is likely to vary considerably by retiree household, from under 54% to over 87%.⁵ Higher income households with greater savings during their working years are likely to require lower replacement ratios, in part because they have become accustomed to lower spending rates. Blanchett further notes that replacement rates vary by income, citing research indicating that a household with pre-retirement income of \$20,000 has a replacement rate of

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

⁵ David Blanchett, “Estimating the True Cost of Retirement,” Morningstar Investment Management, December 2013.

94% versus a replacement rate of 78% for a household with pre-retirement income of \$90,000.⁶ Replacement rates are typically higher for lower income households.

Let's Get Real

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

Consider a hypothetical example that you can adjust to match any particular situation. Assume that 80% of pre-retirement income is a reasonable replacement rate and that a typical college graduate starts working at age 25 earning a starting salary of \$46,000.⁷ This person works continuously for 41 years and retires upon reaching age 66. We anticipate that this worker's actual salary will rise not only due to productivity increases, assumed to be 1% per year,⁸ 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, we treat all dollar figures in "real" (inflation-adjusted) terms. Under these assumptions, this worker's salary, growing at 1% per year, will rise from \$46,000 to \$69,173 by retirement.⁹

Assuming this retiree aims to replace 80% of his pre-retirement income, we calculate the size of an adequate nest egg in Table 1 below. The example includes a Social Security benefit¹⁰ and assumes an annual 5% withdrawal rate over 20 years. Since less than a third of employees are currently covered under defined-benefit pension plans and the use of this type plan continues to trend downward, Table 1 does not include such a benefit. However, if you have a defined-benefit pension plan or government retirement income, then it would reduce the necessary nest egg in a manner analogous to the Social Security benefit.

⁶ Aon Consulting "Replacement Ratio Study," 2008.

⁷ According to the National Association of Colleges and Employers (NACE) *Salary Survey*, January 2014, the class of 2013 college graduates had an overall average starting salary of \$45,633, with a range of \$38,000 to \$63,000 depending on the specific discipline of study.

⁸ Over the long term, labor productivity has increased about 1 – 1.5% per year.

⁹ If we had not corrected for inflation, the nominal wage would have risen to almost \$230,000 assuming the inflation rate over the next four decades will approximate its historical average of 3% per year. Since it is difficult to envision the standard of living such a salary would command 41 years from now, we removed inflation and calculated in real (inflation-adjusted) terms. A \$230,000 salary 41 years from now would provide a standard of living of about \$69,000 in today's prices. Since the worker begins with a \$46,000 salary, this represents a 50% increase in his standard of living over a 41-year working career.

¹⁰ According to the Social Security Administration, the average retiree currently receives \$15,288 per year in benefits. Since higher incomes lead to higher benefits, we assume a college graduate receives a social security benefit greater than the average.

Table 1: Adequate Size Nest Egg Calculation

Pre-retirement annual income	\$69,000
Replaced at 80% (\$69,000 x 0.80 = \$55,200)	\$55,200
Less:	
• Social security annual payment	– \$20,000
Required annual nest egg withdrawal	\$35,200
Nest egg for median life expectancy {(\$35,200 per year) x (20 years) = \$704,000}	\$704,000 ¹¹

Show Me the Money

So how does the hypothetical worker save and invest to achieve the adequate nest egg of approximately \$704,000 in today’s dollars?

To answer this question we will consider two separate approaches to saving and investing:

- A. A Defined-Contribution Plan invested in a 401(k) with an employer matching contribution, comparing multiple savings rates with a portfolio invested at several hypothetical rates of return.
 - B. An Individual Retirement Account (IRA) savings plan (no employer match available for IRAs) using the actual S&P 500 returns over the last 41 years.
- A. Defined-Contribution Retirement Plan: Returning to our earlier example of a 25-year old college graduate earning a starting salary of \$46,000, we make the following additional assumptions:
- Employer Savings Match: Since the majority of employer-sponsored retirement plans provide a retirement savings match, we 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. You can think of matching as “free money” that greatly helps retirement saving.
 - Savings Rate: From 1950 – 1990, the average personal savings rate was 7.7%, but rates have fallen and are presently at about 4%. Since the present rates are low and historical rates were much higher, for a baseline example we include a savings rate of 6% of gross income—which would represent an even higher percentage if computed on

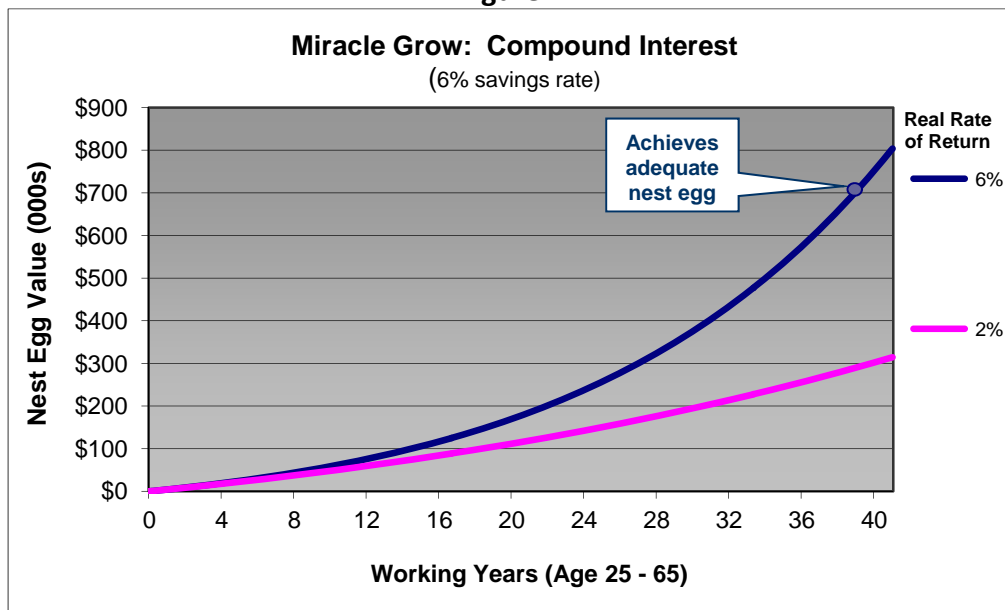
¹¹ Recall that this nest egg is expressed in real terms (today’s dollars). Without adjustment for inflation, the required nest egg would be about \$2.4 million in future dollars. Depending on the nest egg’s investment return, it would **not necessarily be fully depleted** over 20 years.

“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 401(k)-type account that earns a *real* rate of return of 6%—for example, if the inflation rate averaged 3% per year, the portfolio would earn an average 9% *actual* annual rate of return. Since the S&P 500 has averaged about 10% per year over the past 88 years, a 9% nominal rate of return (that is, 6% real return when inflation is 3%) seems a reasonable long-term estimate for a diversified equity portfolio.

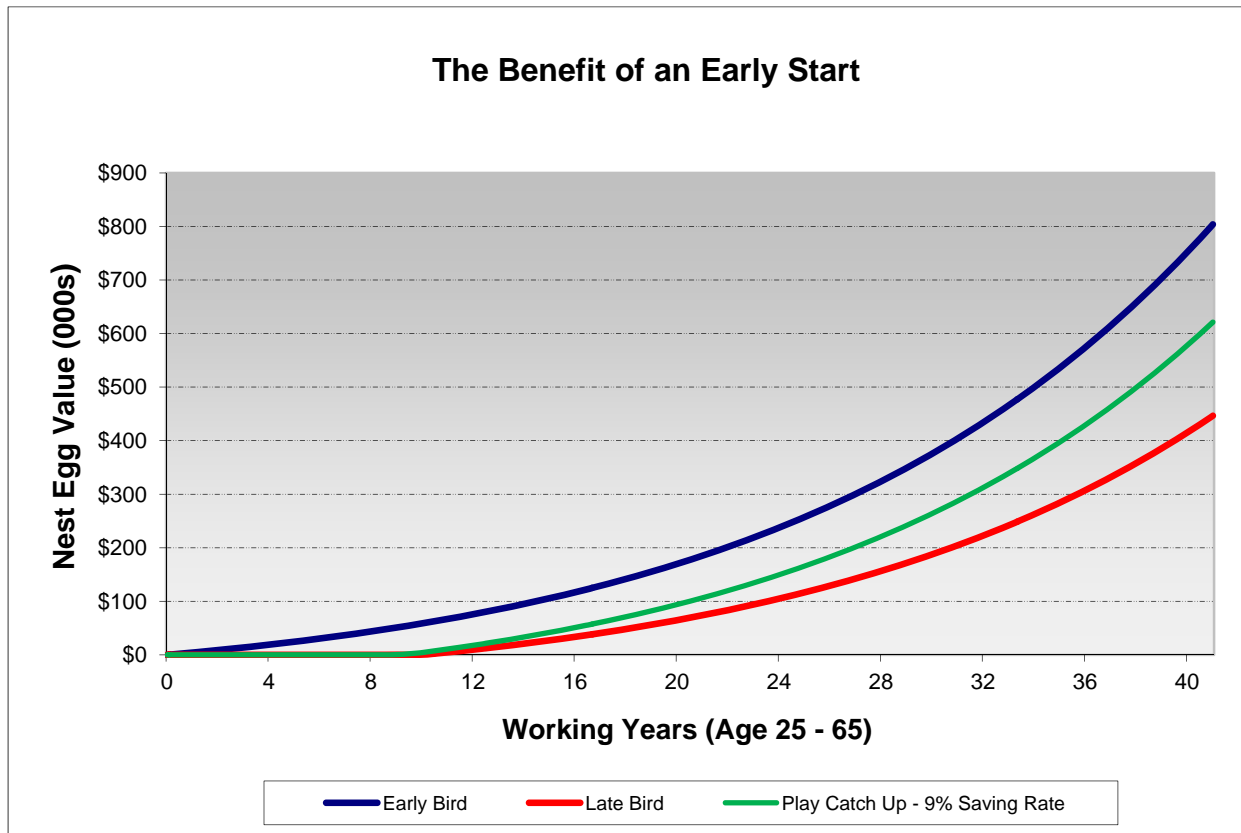
Under these parameters, the upper (blue) line in Figure 1 below indicates that the hypothetical worker reaches his objective of \$704,000 when he turns 64 years of age—after saving and investing for about 39 years. Note the importance of emphasizing equities in an investment portfolio. Had the worker limited his portfolio to money market funds and long-term U.S. government bonds, over the long run his return may have averaged about 5% nominal rate of return. But since inflation has averaged 3% over the past 88 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 4% difference in the real rates of return results in vastly different retirement situations—the investor who constructs a diversified portfolio emphasizing equities enters retirement more than two-and-a-half times better off (\$804,000 versus only \$314,000). No wonder Albert Einstein called the power of compounding one of the greatest wonders of all time!

Figure 1



Due to the power of compounding, the earlier a person starts a program of saving and investment, the better off he will be. As an example, consider two hypothetical workers—*Early Bird* who begins saving and investing in equities at age 25, as depicted in Figure 1 above and shown by the blue line in Figure 2. However, like many Americans, *Late Bird* does not begin an investment program until age 35—waiting 10 years to get started—as reflected by the red line.

Figure 2



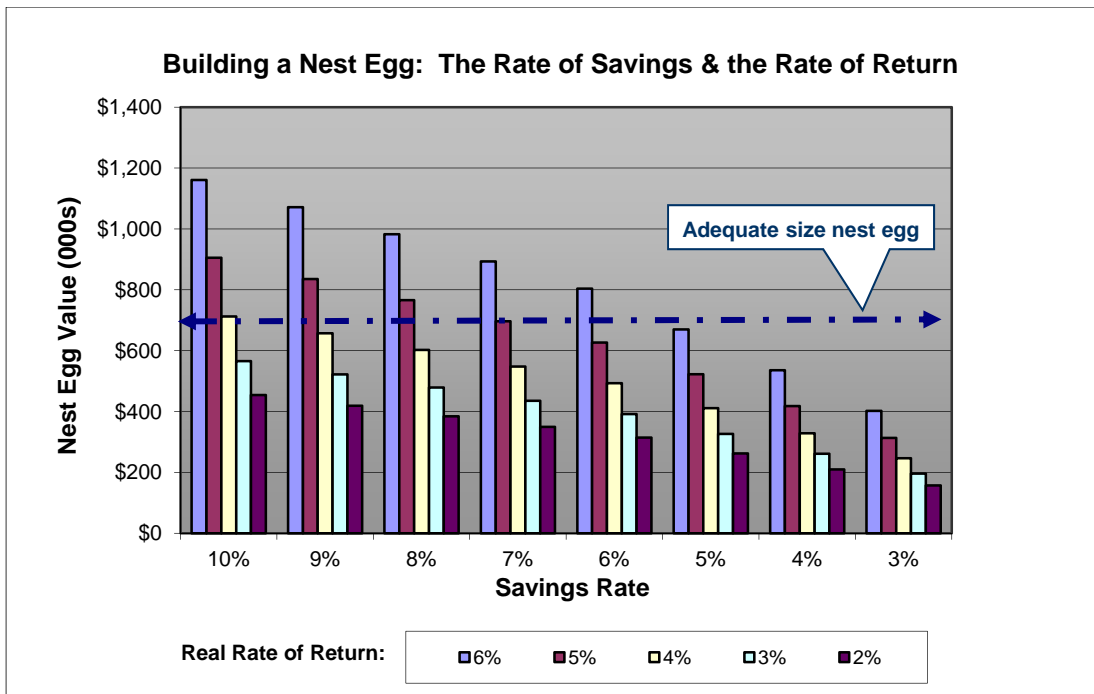
Late Bird's nest egg grows to only about \$446,000, far short of adequate and well below *Early Bird's* \$804,000 portfolio. Even if *Late Bird* saves 9% (green line) instead of 6% for the remaining 31 years of his career, he is unable to catch up to *Early Bird* and is still short of an adequate nest egg. As you can see, the price of waiting 10 years to start saving for retirement is quite high. Indeed, *Early Bird* gets the worm!

The moral of the story is clear—the three most important steps to financial freedom in retirement are:

- ❖ **Start early:** Resist the temptation to spend—begin a consistent saving and investing program in a disciplined way as early as possible. Don't forget *Late Bird's* dilemma!

- ❖ **Save enough:** Few people complain about having too much money in retirement. A worker who starts investing at age 25, but saves too little, will struggle to achieve his financial goals. As Figure 3 shows, a savings rate of 5% or less fails to generate an adequate nest egg, even with a real rate of return of 6% (or nominal return of about 9%) over 41 years—strong performance by historical standards. By increasing their savings rate, investors can substantially improve their chances of accumulating adequate nest eggs.
- ❖ **Mind the gap** in rates of return: 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 41 years and achieves a real rate of return of just one percentage point higher—6% instead of 5%—he accumulates a nest egg almost 30% larger. Investors should mind the gap between rates of return, and to achieve better long-term performance they should consider a diversified portfolio emphasizing equities.

Figure 3



We caution readers, however, that few investors have actually achieved 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.¹² Experts observe that too often investors chase hot mutual funds, forgetting that *this year's star is often next year's dog*. Investors often end up following their emotions or popular sentiment, which leads to buying high and selling low, substantially reducing their returns.

B. IRA Savings Plan: Returning to our earlier example of a 25-year old college graduate earning a starting salary of \$46,000, we make the following alternative assumptions:

- **Savings Rate:** In this example, we assume that the worker saved the maximum legally allowable IRA contribution each year, starting in 1973 for an assumed 25-year old worker, and continuing through 2013, when the worker turned 66.¹³ Each year's contribution was assumed to be equally divided into 12 monthly installments, with the first installment made at the end of January 1973. Starting in 2002, workers age 50 or older were allowed somewhat higher contribution limits, and we incorporate these higher limits in 2002 (when the sample worker was 54) through 2013.¹⁴ Compared to our previous example of a 401(k) with employer matching (and higher contribution limits), an IRA is not the easiest way to save for retirement. However, since IRA investment vehicles are commonly used, this example may resonate for many.
- **Real Rate of Return on Investment:** Savings are placed in an IRA account with investment performance that equaled that of the S&P 500 Stock Index.

Table 2, at the end of this article, shows the detailed results. While the table is long and has lots of numbers, many important issues can be addressed by careful reference to the information in the table.

We encourage you to familiarize yourself with the table, but a few pointers may help:

- Monthly IRA savings began at the end of January 1973 and continued through December 2013, reaching a cumulative total in IRA contributions of \$115,500. Demonstrating the remarkable power of compound returns, the cumulative contributions of \$115,500 over the worker's 41-year working career, invested at a rate of return equal to the S&P 500, grew more than 10-fold to almost \$1.3 million.

¹² In nominal terms, the S&P 500 averaged 16.3% over this period, while actual mutual fund investors averaged only a 5.3% annual return according to a study by Dalbar, Inc. Thus, on average, mutual funds themselves did all right, it was the mutual fund *investors* who sabotaged their returns by chasing hot funds and effectively buying high and selling low.

¹³ To illustrate results for a career from age 25 to 66, we assumed IRA accounts were available in 1973, versus their actual 1975 inception date.

¹⁴ Rather than try to quantify the tax advantages of IRA contributions, we simply point out that these tax advantages made it easier to contribute to IRA accounts.

- The significant bear market of 1973 – 74 brings to light an important point for investors: While the worker in our example saved \$125 each month in 1973 and 1974 (total annual contribution = \$1,500), due to a declining market the value of these contributions dropped to \$1,399 and \$1,315 respectively. However, the worker kept saving each month even as stock prices descended further, effectively purchasing stocks at bargain prices as the bear market progressed. Such a “dollar-cost-averaging” strategy paid a substantial dividend, as 1974’s \$1,500 contribution grew to over \$115,000 by 2013. While bear markets create short-term losses, the investor achieved great long-term returns by continuing to buy during the downturn.
- Compound interest is exponential growth, and the blue line in Figure 1 captures this concept rather well. Note that the blue line is relatively flat early on but then climbs at a faster rate, particularly after some years have passed. Now look at Table 2 and note that it took almost 17 years for the portfolio value to break the \$100,000 mark (1989 “Year-end Value” = \$120,441). However, it took only 5.5 years more for the portfolio to gain another \$100,000 (1995 Year-end Value = \$270,276). Then it took just 1.5 years to add yet another \$100,000 value, reaching \$334,866 by the end of 1996. The clear message is that starting early allows an investor to get onto the steeper part of the curve and truly benefit from the power of compound interest.
- There were several other bear markets following the 1973 – 74 slump, providing clear opportunities to pursue dollar-cost averaging. But the recent bear market following the financial crisis is particularly instructive. Not only did this recent market collapse provide favorable buying opportunities, it also serves as a lesson about controlling emotions. Many investors attempted to exit the stock market, but they sold too late, often near the trough. And then, still fearful of the future, they remained on the sidelines for too long. In contrast, our hypothetical worker continued saving and investing throughout the crisis, and his portfolio value, which dropped substantially in 2008, rose very rapidly thereafter, closing at a value approaching \$1.3 million by the end of 2013. Clearly, this hypothetical investor and many others who controlled their emotions during the crisis came out smelling like roses.

I Think I Can ... I Know I Can

In the United States, relatively few retirees have amassed \$1+ million nest eggs. The reasons for this shortfall, as both the 401(k) and the IRA examples make clear, include:

- Not getting started early with a savings plan. When *Late Bird* started at age 35, 10 years later than *Early Bird*, his nest egg fell well short of the desired level. Many

people wait too long to get started and as our example demonstrated, even with a substantial increase in his savings rate *Late Bird* failed to catch up.

- Not saving enough. Too many people save too little or save inconsistently; this is further exacerbated when people make withdrawals before retirement.
- Failing to watch the rate of return. Failing to achieve S&P 500-like returns is a common result when savers hold lower-returning investments (such as bank deposits, most bonds or over-hyped faddish investments) in an attempt to reduce the near-term volatility that is characteristic of stock performance. For example, based on the past 88 years of market data, the nominal rate of return on a portfolio including a mix of money market funds and long-term government bonds would likely have averaged an annual return of about 5%. With 3% inflation, such a portfolio would provide about 2% real return, and as shown in Figure 3, such a return is too low for our hypothetical investor to achieve his financial goal—at any of the savings rates examined.
- Surrendering to emotions during bear markets. Another circumstance when savers fail to achieve S&P 500-like returns is when they succumb to their fears during bear markets and either suspend saving or sell their stocks in a panic. Carefully study Table 2 and note that the short-term market volatility as reflected in the Year-end Values during the bear markets of 1973-74, 1990, 2000 – 2002, and 2008 didn't adversely affect **long-term** investment performance. Bear markets should not be feared, but they should be exploited because bear markets create great buying opportunities.

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 saving, investing and achieving financial goals. While they appear unattainable at the beginning, disciplined saving and investment get the job done. But as the above numerical examples demonstrate, a prerequisite for success is patience. Neither the 401(k) nor the IRA investor realized his goal in the short term—in fact, as we discussed, it took almost 17 years for the IRA value to reach \$100,000, but its growth took off in the later years.

No two households face the same set of circumstances, and it's unlikely any individual situation matches the precise examples in this commentary. However, this article provides a template for retirement planning that can be modified to fit your particular situation. No matter what the details, the fundamental principles remain valid for purchasing any retirement—start early, save enough, keep an eye on the rate of return and remain patient.

Table 2

Year End:	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Worker's Age:	25	26	27	28	29	30	31	32	33	34
Annual IRA Contribution	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	2,000	2,000
Cumulative Contributions	1,500	3,000	4,500	6,000	7,500	9,000	10,500	12,000	14,000	16,000
Annual S&P 500 Return:	-14.69%	-26.47%	37.23%	23.93%	-7.16%	6.57%	18.61%	32.50%	-4.92%	21.55%
Year of Initial Contribution										
1973	1,399	1,029	1,412	1,748	1,623	1,730	2,049	2,713	2,580	3,132
1974		1,315	1,804	2,234	2,074	2,210	2,618	3,466	3,296	4,002
1975			1,588	1,967	1,826	1,946	2,305	3,052	2,902	3,523
1976				1,598	1,483	1,581	1,872	2,479	2,358	2,862
1977					1,499	1,597	1,891	2,505	2,382	2,892
1978						1,553	1,839	2,436	2,316	2,812
1979							1,609	2,131	2,026	2,460
1980								1,759	1,672	2,030
1981									1,969	2,391
1982										2,419
Year-end Value:	1,399	2,344	4,804	7,548	8,504	10,616	14,183	20,540	21,501	28,523

Bear markets lead to short-term losses and great long-term returns. See note next to the 2013 column.

Year End:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Worker's Age:	35	36	37	38	39	40	41	42	43	44
Annual IRA Contribution	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Cumulative Contributions	18,000	20,000	22,000	24,000	26,000	28,000	30,000	32,000	34,000	36,000
Annual S&P 500 Return:	22.56%	6.27%	31.73%	18.67%	5.25%	16.61%	31.69%	-3.10%	30.47%	7.62%
Year of Initial Contribution										
1973	3,837	4,077	5,388	6,384	6,718	7,847	10,318	9,991	13,043	14,043
1974	4,903	5,210	6,885	8,157	8,584	10,027	13,184	12,766	16,666	17,944
1975	4,316	4,587	6,062	7,182	7,557	8,828	11,608	11,239	14,673	15,798
1976	3,507	3,726	4,925	5,834	6,140	7,172	9,430	9,131	11,920	12,834
1977	3,543	3,765	4,975	5,894	6,203	7,245	9,527	9,224	12,042	12,966
1978	3,445	3,661	4,838	5,731	6,031	7,045	9,264	8,970	11,710	12,608
1979	3,014	3,203	4,233	5,015	5,277	6,164	8,105	7,848	10,245	11,031
1980	2,488	2,644	3,494	4,139	4,355	5,088	6,690	6,477	8,456	9,105
1981	2,929	3,113	4,114	4,874	5,129	5,991	7,878	7,628	9,958	10,722
1982	2,963	3,149	4,161	4,930	5,188	6,060	7,968	7,716	10,073	10,845
1983	2,099	2,231	2,948	3,492	3,675	4,293	5,645	5,465	7,135	7,682
1984		2,135	2,821	3,342	3,517	4,108	5,402	5,230	6,828	7,352
1985			2,288	2,710	2,852	3,332	4,381	4,242	5,538	5,962
1986				2,063	2,171	2,536	3,334	3,228	4,214	4,538
1987					1,771	2,069	2,721	2,634	3,439	3,703
1988						2,112	2,777	2,689	3,510	3,779
1989							2,212	2,142	2,797	3,011
1990								2,024	2,643	2,845
1991									2,225	2,395
1992										2,121
Year-end Value	37,043	41,499	57,132	69,748	75,167	89,914	120,441	118,644	157,114	171,286

↑
 It took 17 years to exceed \$100,000.

Table continued →

Year End:	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Worker's Age:	45	46	47	48	49	50	51	52	53	54	55	56
Annual IRA Contribution	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	3,500	3,500	3,500
Cumulative Contributions	38,000	40,000	42,000	44,000	46,000	48,000	50,000	52,000	54,000	57,500	61,000	64,500
Annual S&P 500 Return:	10.08%	1.32%	37.58%	22.96%	33.36%	28.58%	21.04%	-9.10%	-11.89%	-22.10%	28.68%	10.88%
Year of Initial Contribution												
1973	15,446	15,648	21,505	26,467	35,298	45,386	54,931	49,935	44,001	34,274	44,108	48,903
1974	19,736	19,994	27,478	33,819	45,103	57,993	70,190	63,806	56,224	43,795	56,360	62,488
1975	17,377	17,604	24,193	29,775	39,710	51,059	61,798	56,177	49,501	38,559	49,621	55,016
1976	14,117	14,301	19,654	24,189	32,260	41,480	50,204	45,637	40,214	31,324	40,312	44,695
1977	14,261	14,448	19,856	24,437	32,591	41,905	50,719	46,105	40,627	31,646	40,725	45,153
1978	13,868	14,049	19,307	23,762	31,691	40,748	49,319	44,833	39,505	30,772	39,601	43,907
1979	12,133	12,292	16,892	20,790	27,727	35,651	43,150	39,225	34,564	26,923	34,648	38,415
1980	10,014	10,145	13,943	17,160	22,885	29,426	35,615	32,375	28,528	22,222	28,597	31,707
1981	11,793	11,947	16,418	20,207	26,949	34,651	41,939	38,124	33,594	26,168	33,675	37,337
1982	11,929	12,085	16,608	20,440	27,260	35,051	42,423	38,564	33,981	26,469	34,064	37,767
1983	8,450	8,560	11,764	14,479	19,310	24,829	30,051	27,318	24,072	18,750	24,130	26,753
1984	8,086	8,192	11,258	13,856	18,479	23,760	28,758	26,142	23,036	17,943	23,091	25,602
1985	6,558	6,644	9,131	11,237	14,987	19,270	23,323	21,201	18,682	14,552	18,727	20,764
1986	4,991	5,056	6,949	8,552	11,406	14,665	17,750	16,135	14,218	11,075	14,252	15,802
1987	4,073	4,126	5,670	6,979	9,307	11,967	14,484	13,167	11,602	9,037	11,630	12,895
1988	4,157	4,211	5,787	7,122	9,499	12,214	14,782	13,438	11,841	9,223	11,870	13,160
1989	3,312	3,355	4,611	5,675	7,569	9,732	11,779	10,707	9,435	7,349	9,458	10,486
1990	3,130	3,171	4,357	5,363	7,152	9,196	11,130	10,118	8,915	6,945	8,937	9,909
1991	2,635	2,669	3,668	4,515	6,021	7,742	9,370	8,518	7,506	5,846	7,524	8,342
1992	2,333	2,363	3,248	3,998	5,331	6,855	8,297	7,542	6,646	5,177	6,662	7,386
1993	2,086	2,113	2,904	3,574	4,767	6,129	7,418	6,743	5,942	4,629	5,957	6,604
1994		2,023	2,780	3,421	4,562	5,866	7,100	6,454	5,687	4,430	5,701	6,321
1995			2,294	2,824	3,766	4,842	5,860	5,327	4,694	3,656	4,706	5,217
1996				2,226	2,969	3,817	4,620	4,200	3,701	2,883	3,710	4,113
1997					2,252	2,895	3,504	3,185	2,807	2,186	2,813	3,119
1998						2,287	2,767	2,516	2,217	1,727	2,222	2,464
1999							2,226	2,023	1,783	1,389	1,787	1,982
2000								1,873	1,651	1,286	1,655	1,834
2001									1,959	1,526	1,964	2,177
2002										3,177	4,088	4,533
2003											4,088	4,532
2004												3,774
Year-end Value	190,483	194,996	270,276	334,866	448,850	579,415	703,507	641,388	567,133	444,939	576,682	643,157

It took 6 more years to exceed \$200,000.

It took just one more year to surpass \$300,000.

Another bear market. Another buying opportunity.

Year End:	2005	2006	2007	2008	2009	2010	2011	2012	2013
Worker's Age:	57	58	59	60	61	62	63	64	65
Annual IRA Contribution	4,500	5,000	5,000	6,000	6,000	6,000	6,000	6,000	6,500
Cumulative Contributions	69,000	74,000	79,000	85,000	91,000	97,000	103,000	109,000	115,500
Annual S&P 500 Return:	4.91%	15.79%	5.49%	-37.00%	26.46%	15.06%	2.11%	16.00%	32.39%
Year of Initial Contribution									
1973	51,295	59,397	62,662	39,480	49,922	57,436	58,652	68,025	90,071
1974	65,544	75,896	80,068	50,447	63,789	73,390	74,944	86,921	115,091
1975	57,708	66,822	70,495	44,415	56,162	64,615	65,984	76,529	101,330
1976	46,881	54,285	57,269	36,083	45,625	52,493	53,604	62,171	82,319
1977	47,362	54,842	57,856	36,453	46,093	53,031	54,154	62,809	83,164
1978	46,054	53,328	56,259	35,446	44,821	51,567	52,659	61,075	80,868
1979	40,294	46,658	49,222	31,013	39,215	45,117	46,073	53,436	70,753
1980	33,257	38,510	40,627	25,597	32,367	37,239	38,027	44,104	58,398
1981	39,163	45,348	47,841	30,142	38,114	43,851	44,780	51,936	68,767
1982	39,615	45,871	48,393	30,490	38,554	44,357	45,296	52,535	69,561
1983	28,062	32,494	34,280	21,598	27,311	31,421	32,087	37,214	49,275
1984	26,854	31,096	32,805	20,669	26,135	30,069	30,706	35,613	47,155
1985	21,779	25,219	26,605	16,763	21,196	24,386	24,903	28,882	38,243
1986	16,575	19,193	20,248	12,757	16,131	18,559	18,952	21,981	29,104
1987	13,526	15,662	16,523	10,410	13,163	15,145	15,465	17,937	23,750
1988	13,804	15,984	16,863	10,624	13,434	15,456	15,784	18,306	24,239
1989	10,999	12,736	13,437	8,466	10,705	12,316	12,577	14,587	19,314
1990	10,393	12,035	12,697	7,999	10,115	11,638	11,884	13,783	18,250
1991	8,750	10,132	10,689	6,734	8,515	9,797	10,005	11,603	15,364
1992	7,748	8,971	9,465	5,963	7,540	8,675	8,859	10,275	13,604
1993	6,927	8,021	8,462	5,332	6,742	7,756	7,921	9,186	12,164
1994	6,630	7,677	8,099	5,103	6,453	7,424	7,581	8,793	11,642
1995	5,472	6,337	6,685	4,212	5,326	6,127	6,257	7,257	9,609
1996	4,314	4,996	5,270	3,321	4,199	4,831	4,933	5,722	7,576
1997	3,272	3,789	3,997	2,518	3,184	3,664	3,741	4,339	5,745
1998	2,584	2,992	3,157	1,989	2,515	2,894	2,955	3,427	4,538
1999	2,078	2,407	2,539	1,600	2,023	2,327	2,377	2,756	3,650
2000	1,924	2,228	2,351	1,481	1,873	2,154	2,200	2,552	3,379
2001	2,284	2,644	2,790	1,758	2,223	2,557	2,611	3,029	4,010
2002	4,754	5,505	5,808	3,659	4,627	5,324	5,436	6,305	8,348
2003	4,754	5,504	5,807	3,659	4,626	5,323	5,435	6,304	8,347
2004	3,959	4,584	4,836	3,047	3,853	4,433	4,526	5,250	6,951
2005	4,694	5,435	5,734	3,613	4,568	5,256	5,367	6,225	8,242
2006		5,436	5,735	3,613	4,569	5,257	5,368	6,226	8,243
2007			5,017	3,161	3,997	4,598	4,696	5,446	7,211
2008				4,627	5,851	6,731	6,874	7,972	10,556
2009					7,249	8,340	8,517	9,878	13,079
2010						6,759	6,902	8,005	10,599
2011							5,966	6,919	9,162
2012								6,245	8,269
2013									7,376
Year-end Value	679,311	792,036	840,589	534,243	682,785	792,313	815,058	951,559	1,267,318

The \$1,500 invested in 1974's bear market grew dramatically.

Investing during optimistic times (the late 1990s) led to modest returns.

Investing during gloomy times (the financial crisis) led to much better returns.

A big bear market, and a big buying opportunity.

Note: Do you think stocks are risky and bank deposits are not? If we had assumed T-Bill returns (comparable to bank deposits) instead of stock returns, the final 2013 value would have been far less. Smaller nest eggs increase the risk of outliving your money.