



THE T. ROWE PRICE

Retirement Savings Guide

Plan, save, and enjoy your retirement.

This guide is designed to help you think carefully about your own retirement goals and explore strategies and solutions that can help you achieve them.

*T. Rowe Price
Retirement Savings Guide.*



Plan, Save, and Enjoy Your Retirement.



This guide is designed to help you think carefully about your own retirement goals and explore strategies and solutions that can help you achieve them. Whether you're still saving for your retirement, preparing to leave your full-time career, or currently retired and managing your income, this guide offers you the collective expertise of experienced T. Rowe Price financial planners and investment specialists.

ADDITIONAL RETIREMENT PLANNING RESOURCES

Our website provides extensive online guidance on comprehensive retirement planning, including helpful calculators and tools. You can also contact a T. Rowe Price retirement specialist at 1-800-638-5660 for more information on how to put our investment and planning solutions to work for your retirement.

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Saving for Retirement.

Guidelines on Saving for Retirement



Are you saving enough for retirement? This may be the most important financial challenge you face as the responsibility of funding retirement continues to shift from employers to individuals. And yet several recent studies have revealed that people are not saving enough for a financially secure retirement, especially as life expectancies continue to rise. With people living longer and retiring without a guaranteed pension income, retirement planning is more important today than it was even a decade ago. Here are some guidelines on how much you need to save.

“One of the biggest risks for people planning for retirement is that they may not save enough to live comfortably in their retirement years,” says Christine Fahlund, CFP®, T. Rowe Price’s senior financial planner. “If you don’t save enough today, you may be faced with the harsh reality later in life of having to cut your expenses and standard of living dramatically. That’s why it’s so important to start saving as early as possible and develop a disciplined approach.”

How Much Is Enough?

Determining a reasonable savings rate for your retirement will depend on various factors, including your expected lifestyle in retirement, health concerns, how much risk you are willing to take in your portfolio, the amount you have saved so far, and how much time you have until retirement.

In an effort to help investors gain perspective on their retirement savings needs, T. Rowe Price has used a sophisticated computer analysis (known as Monte Carlo simulation) to develop simulations based on thousands of possible future market scenarios.

Using this methodology, we can compare the effects that a wide variety of savings rates and investment strategies are likely to have on the amount of salary an investor may be able to replace in retirement without running out of money. Unless otherwise indicated, the results in this booklet were created using our free Retirement Income Calculator, a Monte Carlo analysis tool available on our website: troweprice.com/ric.

The 15% Solution

The analysis suggests that individuals generally should strive to save *at least*

15% of their pretax salary (including employer contributions) in order for their investments to replace 50% or more of their current salary in retirement, adjusted for inflation. Those who delay saving until late in their careers, however, may need to save as much as 25% or more of their salary, and even then they may not accumulate enough assets to reach their goal. Ms. Fahlund notes that “most retirees will also receive Social Security and possibly income from part-time work, so their total amount of income in retirement may be closer to 75% of their salary than 50%, including these other sources.”

The results of the T. Rowe Price study are reflected in the tables on page 4. They show the percentage of salary that might be replaced in retirement depending on: (1) the number of years until retirement; (2) what percentage of pretax current salary is being saved annually (assuming the current salary increases by 3% each year); and (3) the amount already saved for retirement, expressed as a multiple of current salary.

These simulations are based on the assumption that the investor using this accumulation strategy will have a 70% simulation success rate (the odds of success) and that he or she maintains an age-appropriate asset allocation. For example, an individual who is 40 years from retirement (i.e., approximately 30 years old) and has no savings but expects to save 15% of pretax salary each year in combination with his or her employer may be able to replace 47% of preretirement salary in retirement from savings. If that person had already saved one times his or her current salary, which means if someone earning \$40,000 has saved \$40,000, then a 15% annual savings rate might enable him or her to

replace 60% of current salary, adjusted for inflation.

As indicated in the tables on page 4, the burden on the investor can increase substantially by delaying saving. For example, those who are 20 years from retirement and have saved only one times their current salary may be able to replace only 24% of their preretirement salary—even if they save 15% of their pretax salary each year between now and retirement. On the other hand, if they had already saved five times their current salary, a 15% savings rate might enable them to replace about 53% of their income at retirement.

Keep in mind, however, that these simulations do not take into account the possibility of receiving salary increases in excess of 3% on average due to promotions, job or career changes, or performance bonuses. Of course, the more an individual’s income rises, the more difficult it may be to replace the targeted percentage of it in retirement unless the individual increases his or her savings rate over time.

Starting Early

“There’s no doubt that starting retirement planning early in life reduces the mental stress and pain later on,” Ms. Fahlund says. “Most companies offer some sort of match in their 401(k) plan, and, if you qualify, you can include that as part of your 15% total contribution. For example, if you save 6% of your salary and the company matches 50 cents on the dollar for that portion, you are already saving at 9% of salary. So employees should at least take full advantage of employer matches.”

“One of the most important issues to focus on is what percentage of your annual income you need to replace in your retirement,” she adds. “Usually, people need at least 75% of their pre-retirement income in retirement even if they have taken care of most of their major expenses such as college education for their kids, saving for retirement, and paying off their mortgage. Of course, some of this may come from other sources, such as Social Security, a pension, and part-time employment.

“Ultimately, at least part of each investor’s future financial success will depend on how much he or she has already saved. Obviously, if someone has not saved for retirement, that situation cannot be changed retroactively. However, he or she may still be able to generate some savings before retirement by not spending any employment bonuses or any inheritance or by downsizing or changing a residence upon retirement and investing the difference.”

Whatever savings plan for retirement you pursue, you should review your results regularly to see if you are on track. To assist you, you can use our free Retirement Income Calculator, a Monte Carlo analysis tool available on our website: troweprice.com/ric.

A Better Alternative to the “Average” Rate of Return

Many retirement planning analyses still base their investment simulations on fixed average annual rates of return. In effect, these analyses assume that the identical investment return will be achieved each and every year.

In fact, the results of simulations using the “average” rate of return method are usually not the same as the results of multiple simulations of the market’s potential ups and downs. Generally, average rate of return calculations paint a picture that may be too optimistic and not realistic enough. For example, they may result in a recommendation to save less for retirement than actually will be required based on the unpredictable nature of the markets.

Monte Carlo simulation is an analytical tool for modeling future uncertainty. In contrast to deterministic tools (e.g., expected-value calculations) that model

How Much of Your Salary Can You Replace in Retirement by Withdrawing From Your Savings?

(Not including other retirement income like Social Security benefits or pension payments.)

20 Years to Retirement

Current Savings as Multiple of Current Pretax Salary

Annual Savings (% of Current Pretax Salary)	Retirement Income as % of Salary			
	0x	1x	3x	5x
5%	6%	13%	27%	41%
10	11	19	33	47
15	17	24	39	53
20	22	30	45	58
25	27	35	49	64

30 Years to Retirement

Current Savings as Multiple of Current Pretax Salary

Annual Savings (% of Current Pretax Salary)	Retirement Income as % of Salary			
	0x	1x	3x	5x
5%	10%	20%	38%	57%
10	20	30	49	67
15	30	40	59	78
20	39	50	68	87
25	48	58	77	96

40 Years to Retirement

Current Savings as Multiple of Current Pretax Salary

Annual Savings (% of Current Pretax Salary)	Retirement Income as % of Salary			
	0x	1x	3x	5x
5%	16%	28%	53%	78%
10	31	44	69	93
15	47	60	85	110
20	61	74	99	122
25	73	86	112	136

The simulations or other information generated regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results.

The tables show what percentage of preretirement income you may be able to replace from savings only (i.e., not including Social Security, pension, or other income sources you may receive), based on years to retirement, current savings expressed as a multiple of current salary, and what percentage of pretax salary is being saved on a tax-deferred basis each year between now and retirement. So if you are 30 years from retirement and have saved one times your current salary and are saving 20% of your salary each year, you may be able to replace 50% of your preretirement salary in retirement from savings withdrawals alone.

The analysis uses the T. Rowe Price Retirement Income Calculator—Saving for Retirement path, removing Social Security to isolate the investment income. This calculator assumes annual salary increases of 3% and that the amount of income in retirement increases by 3% each year to keep pace with inflation. The analysis also assumes an asset allocation strategy utilizing an age-appropriate retirement glide-path portfolio both before and through retirement (i.e., the “T. Rowe Price-modeled portfolio” option on the calculator). The analysis is based on 1,000 potential (not historical) market scenarios with a 70% chance of maintaining this income stream throughout a 30-year retirement period. See pages 5 and 6 for more information regarding methodology, assumptions, and limitations.

Source: T. Rowe Price Retirement Income Calculator (troweprice.com/ric)

the average-case outcome, Monte Carlo simulation generates ranges of outcomes based on our underlying probability model. Thus, outcomes generated via Monte Carlo simulation incorporate future uncertainty and give you a *likelihood* of a certain goal being achieved, while deterministic methods do not. Unless otherwise noted, we used the T. Rowe Price Retirement Income Calculator (troweprice.com/ric), a Monte Carlo analysis tool available for free on our website, which is described below.

Addressing Uncertainty

The analysis results in a range of possible future outcomes of a retirement planning investment strategy under thousands of different market scenarios, allowing us to determine the likelihood that each strategy will still have assets remaining at the end of retirement. This probability measure is called a strategy's simulation success rate and reflects the number of times in the simulations a particular strategy "succeeds" (i.e., has at least \$1 remaining in the portfolio at the end of the retirement period).

The chart below is a hypothetical example of the concept illustrating 11 simulations.

We start with a current balance and track changes to the balance over a specific time period. The lines in the graph represent the activity of one chosen strategy (shared by all the lines) as it responds in our simulations to varying hypothetical sequences of monthly investment returns.

The orange line represents a hypothetical sequence of monthly investment returns that resulted after 30 years in the median ending balance, where 50% of the outcomes are above the median ending balance and 50% are below it.

Material Assumptions

The investment results shown in the various charts in this booklet were developed with Monte Carlo modeling, which includes the following assumptions and limitations:

- Underlying long-term expected rates of return for the asset classes are not directly based on historical returns. Rather, they represent assumptions that

take into account, among other things, historical returns. They also include our estimates for reinvested dividends and capital gains.

- These assumptions, as well as an assumed degree of fluctuation of returns around these long-term rates, are used to generate random monthly returns for each asset class over specified time periods.
- The monthly returns are then used to generate 1,000 scenarios, representing a spectrum of possible performance for the modeled asset classes. Analysis results are directly based on these scenarios.
- Required minimum distributions (RMDs) are included. In the simulations, if the RMD is greater than the planned withdrawal, the excess amount is reinvested in a taxable account.

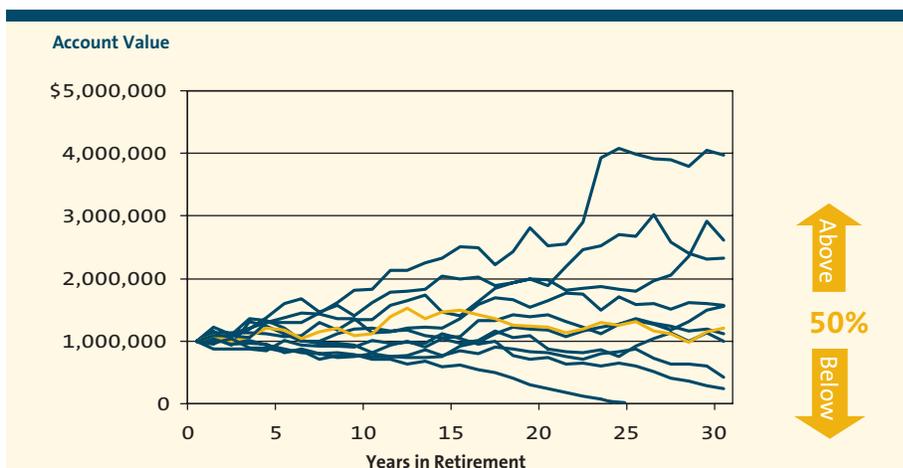
Material Limitations

Material limitations of the investment model include:

- The analysis relies on return assumptions, combined with a return model that generates a wide range of possible return scenarios from these assumptions. Despite our best efforts, there is no certainty that the assumptions and the model will accurately predict asset class return ranges going forward. As

a consequence, the results of the analysis should be viewed as approximations, and users should allow a margin for error and not place too much reliance on the apparent precision of the results. Users should also keep in mind that seemingly small changes in input parameters (the information the user provides to the tool, such as age or contribution amounts) may have a significant impact on results, and this (as well as mere passage of time) may lead to considerable variation in results for repeat users.

- Extreme market movements may occur more often than in the model.
- Some asset classes have relatively short histories. Actual long-term results for each asset class going forward may differ from our assumptions, with those for classes with limited histories potentially diverging more.
- Market crises can cause asset classes to perform similarly, lowering the accuracy of our return assumptions and diminishing the benefits of diversification (that is, of using many different asset classes) in ways not captured by the analysis. As a result, returns actually experienced by the investor may be more volatile than projected in our analysis.



Median ending balance after 30 years in retirement is illustrated at the end of the orange line, reflecting one of the 11 simulations of potential market scenarios: 50% of the outcomes result in ending balances above the median balance and 50% below.

This is a hypothetical concept illustration. There are 11 simulations in this example.

The simulations or other information generated regarding various investment strategies are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Source: T. Rowe Price

- The model assumes no month-to-month correlations among asset class returns (correlation is a measure of the degree in which returns are related or dependent upon each other). It does not reflect the average duration of bull and bear markets, which can be longer than those in the modeled scenarios.
- Inflation is assumed to be constant, so variations are not reflected in our calculations.
- The analysis assumes a diversified portfolio, which is rebalanced monthly. Not all asset classes are represented, and other asset classes may be similar or superior to those used.
- Taxes on withdrawals are not taken into account, nor are early withdrawal penalties.
- The analysis models asset classes, not investment products. As a result, the actual experience of an investor in a given investment product (e.g., a mutual fund) may differ from the range of projections generated by the simulation, even if the broad asset allocation of the investment product is similar to the one being modeled. Possible reasons for divergence include, but are not limited to, active management by the manager of the investment product or the costs, fees, and other expenses associated with the investment product. Active management for any particular investment product—the selection of a portfolio of individual securities that differs from the broad asset classes modeled in this analysis—can lead to the investment product having higher or lower returns than the range used in this analysis.

Modeling Assumptions:

- The primary asset classes used for this analysis are stocks, bonds, and short-term bonds. An effectively diversified portfolio theoretically involves all investable asset classes, including stocks, bonds, real estate, foreign investments, commodities, precious metals, currencies, and others. Since it is unlikely that investors will own all of these assets, we selected the ones we believed to be the most appropriate for long-term investors.
- Results of the analysis are driven primarily by the assumed long-term, compound rates of return of each asset class in the scenarios. Our corresponding assumptions, all presented in excess of inflation, are as follows: for stocks, 4.90%; for bonds, 2.23%; and for short-term bonds, 1.38%.
- Investment expenses in the form of an expense ratio are subtracted from the return assumption as follows: for stocks, 0.70%; for bonds, 0.60%; and for short-term bonds, 0.55%. These expenses represent what we believe to be a reasonable approximation of investing in these asset classes through a professionally managed mutual fund or other pooled investment product.

Portfolio and Initial Withdrawal Amount:

- The portfolio is either determined by the user or based on preconstructed allocations that consider the user's current age and shift throughout the retirement horizon.

- The initial withdrawal amount is assumed to be distributed in 12 monthly payments at the beginning of each month for the year; in each subsequent year, the amount withdrawn is adjusted to reflect a 3% annual rate of inflation. The modeled asset class scenarios and withdrawal amounts may be calculated at, or result in, a simulation success rate. Simulation success rate is a probability measure and represents the number of times our outcomes succeed (i.e., have at least \$1 remaining in the portfolio at the end of retirement).

IMPORTANT: The projections or other information generated by the T. Rowe Price Retirement Income Calculator regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. The projections are based on assumptions. There can be no assurance that the projected results will be achieved or sustained. The charts present only a range of possible outcomes. Actual results will vary with each use and over time, and such results may be better or worse than the projected scenarios. Clients should be aware that the potential for loss (or gain) may be greater than demonstrated in the projections.

The results are not predictions, but they should be viewed as reasonable estimates.

Source: T. Rowe Price Associates, Inc.

Balancing College and Retirement Savings



If you're a parent, you may find yourself asking which financial goal should take priority—funding your child's college education or saving for your retirement. While financial planners generally suggest that retirement take precedence, many parents are firmly committed to providing their children with enough money for college. Here is some expert guidance on how to successfully balance college and retirement savings.

While financial priorities are a matter of personal choice, parents need to keep things in perspective, cautions T. Rowe Price Senior Financial Planner Christine Fahlund, CFP®. She points out that if you don't have sufficient assets or a pension, there are limited options other than Social Security and continued employment for funding your retirement.

On the other hand, there are various funding sources for college, ranging from loans and scholarships to summer jobs and, in many cases, gifts from grandparents.

"Another important consideration is whether you want to be financially self-sufficient in retirement or whether you want your children—who may be trying to raise their own families—to help support you as well," Ms. Fahlund says. "The best strategy for your family overall is for you to stay financially healthy, so your first priority probably should be investing for your own future—unless you live very modestly and know that you can rely on a substantial pension to cover your needs in retirement.

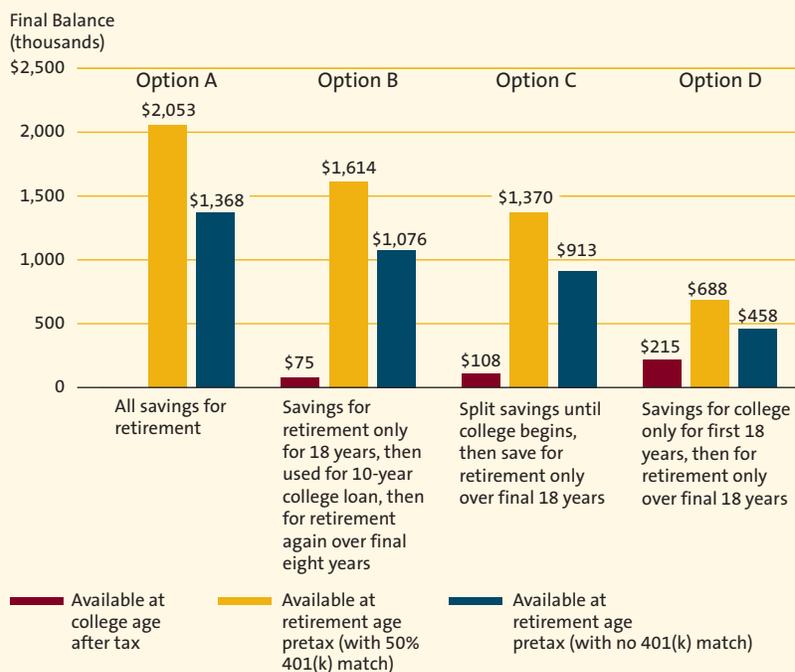
"Nevertheless, we recognize that saving only for retirement is not very appealing to most parents. They want to save for college as well."

Comparing Strategies

T. Rowe Price analyzed various savings strategies to compare the possible implications of different approaches to investing for retirement and college simultaneously.

The results, shown in the chart at right, are for comparative purposes only and do not indicate how much someone may actually need to save to meet his or her individual college and retirement savings goals.

Juggling Competing Goals: Saving for Retirement and Your Children's College Education



This chart compares the impact of different savings strategies on the amount of money potentially available for retirement and college over a 36-year investment period: 18 years prior to and 18 years after the start of college. All scenarios assume that a couple with a combined annual income of \$100,000 and effective tax rate of 20% invests 6% of their income each year over the next 36 years. The examples also assume the couple's salary grows 3% annually, investments earn an average annual 7% pretax rate of return (net of fees), and retirement savings are invested in a 401(k) plan and college savings in a 529 plan. Any earnings grow tax-deferred in both types of plans but can be withdrawn federal tax-free from the 529 plan (if used for qualified education expenses), while the entire savings in the 401(k) is subject to taxation upon withdrawal. The assumed 401(k) match, when applicable, is 50% up to the first 6% of salary. In the scenario where the investor takes out a loan for college (Option B), the amount borrowed is based on a 5% bank loan that could be paid back over a 10-year period, with the amount allocated to college savings. Source: T. Rowe Price

The examples assume the parents, who have a combined income of \$100,000, which increases 3% annually, and an effective tax rate of 20%, invest 6% of their salary each year over a 36-year period (18 years prior to the child starting college and 18 years from the start of college until the parents retire), in some cases with a 401(k) match available.

“... don’t fall into the trap of becoming so obsessed with ... paying for college that you neglect your own retirement.”

If the couple invests only for their own retirement over the full 36-year period (Option A in the chart on page 7), their retirement nest egg would be worth nearly \$1.4 million, assuming their 401(k) plans offered no matching contributions. If their plans provided a 50% match (up to 6% salary), the amount accumulated would be more than \$2 million.

“Given the potential boost provided by a company match, investors should certainly factor this in when choosing a savings strategy,” Ms. Fahlund says. (Note: All money in the 401(k) would be subject to taxation upon withdrawal in retirement.)

If the couple decided to focus on college first, investing the same amount each year in a 529 plan for the first 18 years, they could accumulate \$215,000 by the time the child starts school (Option D in the chart). In this case, they would defer saving for retirement until the child starts college. This strategy provides the most for college but potentially reduces their retirement savings by 67% compared with the all-retirement strategy. “Unless an investor has numerous other ways to pay for retirement, this strategy should probably not be considered,” Ms. Fahlund suggests.

What if this family decided on a dual approach, splitting their annual investment between college and retirement until college started, and then investing only for retirement after that (Option C)? They would accumulate more than twice as much for retirement compared with the putting-college-first plan, although the amounts dedicated to college would be worth about 33% less.

The final scenario (Option B) involves saving only for retirement until college begins, then using the full annual savings amount for the next 10 years to repay a college loan at 5% interest. After that, the couple reverts to saving exclusively for retirement over the final eight years.

This strategy produces the lowest amount available for college, although the amount available at retirement is only 21% less than if the couple had saved exclusively for retirement for the full 36 years. Even though the couple temporarily ceased funding retirement for a decade, they were still able to benefit significantly from the long-term compounding of the investments made during the first 18 years.

A Balancing Act

There is, of course, no single strategy that will work best for every family. “As you evaluate your investing options, it’s important to keep in mind the effects of the trade-offs you make,” Ms. Fahlund advises. “It’s all a balancing act. While it’s admirable to want what’s best for your children, don’t fall into the trap of becoming so obsessed with the goal of paying for college that you neglect your own retirement.”

Earnings on a 529 plan distribution not used for qualified expenses may be subject to income taxes and a 10% federal penalty. Please note that the availability of tax or other benefits may be conditioned on meeting certain requirements, such as residency, purpose for or timing of distributions, or other factors, as applicable.

Strategic Tips for Young Investors



If you're a young investor, long-term financial goals like saving for retirement may seem very distant. But even if you're at the onset of your career, it's important to begin saving for your financial goals as soon as possible. Here are some strategic tips from T. Rowe Price financial planners to help you get started.

Pay yourself first: Those who say they'll save or invest after taking care of other expenses often find that there's nothing left over. To make it easier to pay yourself first, enroll in your company's 401(k) plan or sign up for an "automatic asset builder" program in which money from your pay-check or bank account—often as little as \$100 per month—can be automatically invested in your T. Rowe Price account for you once account minimums are met.

Start early: Due to the effects of compounding, starting early can have significant long-term benefits. As seen in the chart below, for example, someone who saves \$100 per month for 10 years in a tax-deferred account and then stops contributing would accumulate more by age 65 than someone who waits 10 years before starting, and then invests \$100 per month for the subsequent 33 years. Of course, someone who saved \$100 per month for the entire 43 years would do best, ending up with more than \$329,000.

Look for free money: When evaluating job opportunities, check out the availability of a 401(k) plan, when you would be eligible to participate, and whether the company will match some of your contributions. The "free money" from a company match can make a significant contribution to your retirement nest egg.

Balance long- and short-term goals: Although thinking about a retirement that's 30 to 40 years away can be difficult when other needs seem more pressing, it's important to make saving for retirement an equal—if not more important—priority. Strive to save at least 15% of your income for retirement, with any additional savings earmarked for short-term goals such as a car, vacation, or house.

Saving for both long- and short-term goals means you'll have money for major expenditures, while also helping to ensure your financial future.

As we saw at the beginning of this booklet, saving at least 15% of your salary each year for retirement as soon as you start working, and then maintaining at least that percentage throughout your career, can put you on a path toward a financially secure retirement.

Consider IRA contributions: Contributing to a Roth IRA can help you start building a retirement nest egg. The Roth IRA tends to be a better choice for younger investors than Traditional IRAs (whether deductible or nondeductible) because of how the tax benefit works.

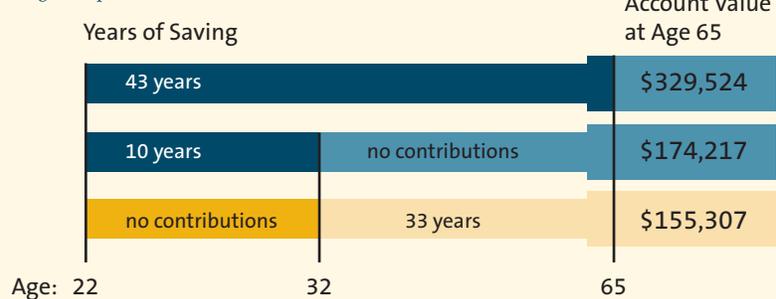
With a Roth IRA, you receive no tax deduction on your contributions, but you pay no taxes (assuming certain conditions are met) on the much larger amount you are likely to have accumulated when you begin withdrawing from your Roth IRA decades from now. Since you could be in a higher tax bracket at retirement than you are early in your career, the tax-free withdrawals become that much more valuable.

With a nondeductible Traditional IRA, only the earnings in the account are taxed when withdrawn. With a deductible Traditional IRA, your contributions are tax-deductible in the year you make them, but then taxes must be paid on the assets at withdrawal. If you don't need tax benefits now, the potential for future tax-free withdrawals may make the Roth IRA the better choice.

Invest in equities for long-term growth potential: For your retirement portfolio, invest up to 90% in equities, assuming you can tolerate market downturns. Historically, investments in stocks have provided more long-term growth opportunities than bonds and short-term investments. Since younger investors have a longer period of time to overcome market setbacks, it is usually prudent for them to invest a significant portion of their portfolio in stocks. This percentage can be decreased as you get older.

The Advantage of Starting Early

Saving \$100 per Month



Starting early is key to accumulating retirement savings. A 22 year old who invests \$100 per month for 10 years and then stops investing could accumulate more than someone who delays saving for 10 years and then contributes until age 65, even though the investor who delayed contributed more than three times as much (\$39,600) as the investor who started early and then stopped (\$12,000). Of course, the investor who contributes for the full 43 years ends up with a significantly higher account value at retirement.

These amounts assume \$100 invested each month in a tax-deferred account and a 7% annual rate of return. Source: T. Rowe Price

Budget for unexpected expenses: To make sure you don't spend more than you earn, in addition to budgeting for fixed expenses (housing, utilities) and flexible expenses (restaurants, recreation), you also need to plan for unexpected expenses, such as car repairs or health care costs. Often, those in financial trouble find that although they were not living beyond their means, they were unprepared for unexpected expenses. Suddenly they are overspending and must start borrowing.

Get the insurance you need: One way to protect yourself against very large unexpected expenses is to purchase insurance. While most people wouldn't think of going without car insurance, other types of insurance also provide a safety net and don't necessarily cost a lot. Renter's insurance provides liability coverage as well as protection for your possessions. Health insurance is also important, even if it's only a catastrophic policy to tide you over until you are eligible for an employer's group plan.

Pay off your credit cards: The ideal way to use credit cards is to pay them off, in full, every month. Credit cards are usually the most expensive source of borrowed money. The interest you pay on your credit card purchases can add significantly to the cost of an item—money that could be directed toward your retirement or other savings goals instead. Paying your credit card and other bills on time can eliminate penalty fees and also enhance your credit profile.

Preparing for Retirement.

Strategies for Optimizing Retirement Income



With more than 70 million baby boomers likely to enter retirement over the next 20 years, the hard truth is that only a small minority are accumulating enough savings to provide for their income needs during decades in retirement.

This uncomfortable reality is particularly true given the overall rise in life expectancy; sharply rising medical costs; the trend toward more active and costly retirement lifestyles; and, not least, the relentless toll of inflation.

For the financially fortunate with sufficient personal savings, Social Security benefits, and corporate pensions to meet all their retirement income needs, the main financial challenges of retirement are how to invest and spend wisely and perhaps provide for their heirs as well.

However, 52% of workers age 55 and older report having less than \$50,000 in investments apart from their homes and pensions, according to a 2013 survey by the Employee Benefit Research Institute (EBRI). At a recommended initial withdrawal amount of 4% (or less) for a 30-year retirement, that provides an income from their investments of just \$2,000 in the first year of retirement.

Nevertheless, those approaching retirement can improve their income and financial security in retirement depending on their flexibility and their approach to four big decisions that are usually under their control:

- When they stop working
- When they start taking Social Security
- How they manage withdrawals from their savings
- How they allocate their assets

The first two can have a significant impact on the amount of income in retirement, while the second two affect the sustainability of that income over a 30-year retirement.

“Taken together, controlling these decisions will go a long way toward determining retirees’ overall security in retirement,” says Christine Fahlund, CFP®. “Careful planning helps preretirees do a better job of optimizing their resources so that they can live with fewer worries and greater opportunities.”

Working Longer

Generally, Ms. Fahlund says that “no single decision will improve preretirees’ potential retirement security as much as continuing to work even a few more years beyond the anticipated retirement date.”

Appealing or not, this is usually the best option for those who come up short on retirement savings.

Unless preretirees enjoy a windfall or a sharp rise in their incomes late in their careers, those just a few years from retiring who have not saved enough will probably not be able to make up their shortfalls solely with increased savings levels or by investing more aggressively. They simply will not have enough time for their assets to compound.

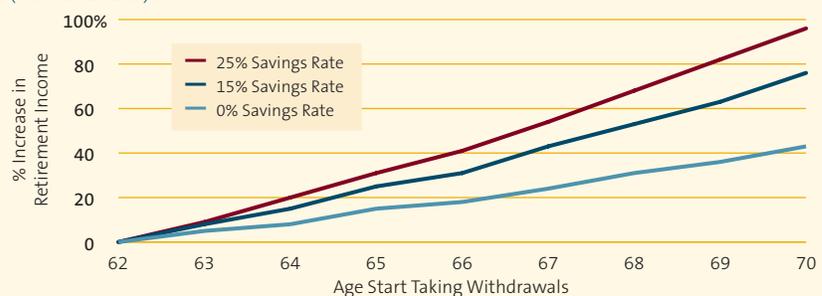
T. Rowe Price studies show:

- The long-term impact of a greater rate of savings at this late stage—even boosting saving from 15% of one’s salary to 25%, for example—is certainly positive but relatively mar-

ginal in terms of increasing annual retirement income from investments in just a few years.

- Likewise, those who invest more aggressively as they approach retirement—moving, for example, from 60% of their portfolio assets in equities to 70% or more—also are not likely to make up for lost time. And because of potentially greater investment volatility, this step could actually cause their portfolio balances to drop significantly just before or after their desired retirement date.
- On the other hand, continuing to work full time could increase preretirees’ expected annual retirement income from their investments, in today’s dollars, by about 6%–8% (depending on savings rate) for each additional year of work and contributions. Working an additional four years—for example from age 62 to 66—and continuing to save 15% of salary could raise annual

Exhibit 1. The Impact on Retirement Income of Working and Saving Longer
Cumulative Percentage Gain in Retirement Income From Investments at Different Savings Rates (Current Dollars)



This chart shows the cumulative percentage increase in retirement income from an investment portfolio for each year the individual continues to work beyond age 62, depending on whether 25%, 15%, or 0% of wages is invested each year. All figures are in current dollars. The study assumes an annual salary of \$100,000; \$500,000 in tax-deferred savings at age 62; an annual inflation rate of 3%; an age-appropriate asset allocation before and through retirement (the “T. Rowe Price-modeled portfolio” option); and an 80% probability that income will be sustained until at least age 95. Portfolio performance is based on a probability analysis described in Guidelines on Saving for Retirement on page 3.

So, for example, if this individual worked until 67, his or her annual retirement income from investments would be 54% greater than if he or she had retired at 62, assuming he or she saved 25% of his or her salary each year. Even if none of the annual earnings were saved, the individual’s income would be 24% greater at 67 because he or she did not have to tap into his or her retirement savings while continuing to work.

Source: T. Rowe Price Retirement Income Calculator (troweprice.com/ric)

income from investments by 31%, or by 41% after working an additional five years. (See chart on page 12 for underlying assumptions.)

- And if this individual worked an extra five years and boosted his or her savings to 25% of annual earnings, his or her annual retirement income from savings would be 54% higher than if he or she had retired at age 62.

The logic behind this is simple: Those who continue working can contribute to their savings for a few more years, delay tapping into their nest eggs, and reduce the number of years that their assets will have to generate income in retirement—a powerful combination.

Moreover, as discussed next, this strategy may enable them to delay when they start taking Social Security benefits, which can significantly increase those payments.

Also, those who continue working may receive health and life insurance and prescription drug benefits from their employers—all expenses that more and more retirees have to cover themselves. (Retirees are not eligible for Medicare until age 65.)

“Delaying retirement does not necessarily mean delaying gratification,” Ms. Fahlund says. One novel strategy that can both boost retirement income and make working longer more palatable involves spending more, while still working, on hobbies, travel, education, or other retirement dreams rather than investing the additional earnings from work.

This strategy could still increase retirement income from investments by 4% per year, or about 12% after three years, because the retiree would not have to tap into existing savings.

While many retirees may not want or be able to continue working in their same jobs full time, they could still improve their potential income in retirement by working part time in the same or another job.

Although wages are likely to be reduced with part-time work, the same potential financial dynamics apply: Every dollar earned is one that doesn’t have to be withdrawn from retirement savings. Indeed, \$20,000 in annual income from a part-time job is the equivalent of withdrawing 4% a year from an additional \$500,000 in savings.

“As you near retirement, you may want to consider phasing it in rather than simply stopping work altogether, or possibly switching to another, more enjoyable, type of work,” Ms. Fahlund suggests. “This approach may allow you to spend more time on new pursuits while growing the assets you will need to draw on later.”

Taking Social Security While Working (Earnings Test)

If you are at least 62, you can receive Social Security benefits and continue to work full or part time, but there is a trade-off. Until you reach full retirement age (see pages 14 and 15), your Social Security benefits are reduced—temporarily withheld and paid after you reach your full retirement age—by \$1 for every \$2 earned above a certain amount each year. In the year of your full retirement age, benefits are reduced by \$1 for every \$3 earned above a certain amount

each year until you reach the month of full retirement age.

Once you reach full retirement age, however, you can work and earn as much as you like without any reductions in Social Security benefits. Moreover, your Social Security benefit at full retirement age would be recalculated to reflect any months you did not receive a benefit check due to excess earned income.

Therefore, if you are still working when you reach full retirement age and would like to start taking your Social Security benefits then invest or spend them, you can do so without any reduction in benefits no matter how much you earn.

Taxing Social Security

Taxes can also affect your Social Security benefits. Fifteen percent of Social Security benefits will never be taxed at a federal level, and the majority of states give a tax-free or tax-favored status to them at the state tax level. But if you continue to have substantial earned income or income from other sources, such as investments in retirement, you may have to pay income tax on a portion of your Social Security benefits.

For instance, married couples filing a joint return with between \$32,000 and \$44,000 in “provisional income” may have to pay income tax on up to 50% of their Social Security benefits, even if they earn no wages during this period. Couples with more than \$44,000 in provisional income may have to pay tax on up to 85% of their benefits.

For single filers, up to half the benefit is taxable with provisional income of \$25,000 to \$34,000, and up to 85% is

Exhibit 2. The Impact of Delaying Social Security Benefits

Age Initiating Benefits	Annual Social Security Payment in Today's Dollars	% Increase Over Benefit at Age 62	Initial Social Security Payment in Future, Inflated Dollars	% Increase Over Benefit at Age 62
62	\$20,952	—	\$20,952	—
63	22,392	7%	23,064	10%
64	24,288	16	25,767	23
65	26,196	25	28,625	37
66	28,092	34	31,618	51
67	30,384	45	35,223	68
68	32,664	56	39,003	86
69	34,956	67	42,991	105
70	37,260	78	47,200	125

Social Security payments estimated using the T. Rowe Price Retirement Income Calculator. This table assumes an individual who is age 62 and earning \$100,000 per year in 2012 (with a full retirement age of 66) who is continuing to work full time until benefits begin. Actual benefits will vary from those obtained from the calculator due to differences in individual work history.

Each year this individual continues working, his or her annual retirement income in today's dollars from Social Security would increase by about 7%–8% and annual retirement income in inflated dollars from Social Security would increase by about 11% per year, regardless of what the market does or how much more the individual saves.

Delaying taking Social Security benefits from age 62 until age 70 would result in an increase of more than \$16,300 in today's dollars per year (representing purchasing power) and almost \$26,250 in inflated dollars per year.

Sources: T. Rowe Price and its Retirement Income Calculator (troweprice.com/ric)

taxable for income over \$34,000. Provisional income is your adjusted gross income, including wages, plus any tax-exempt interest income from your investments, plus half of your Social Security benefit. Provisional income does not include tax-free withdrawals from Roth IRAs.

Delaying Social Security

Delaying taking Social Security benefits can significantly increase a retiree's income. For example, those benefits (in today's dollars) increase approximately 7%–8% per year based on Social Security Administration formulas.

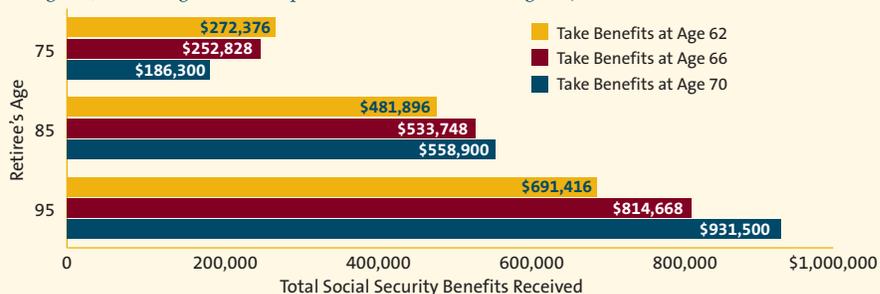
Thus, delaying three years (from 62 to 65) results in a 25% increase in the purchasing power of the Social Security benefits a retiree will receive year after year, and delaying until age 70 is over three-quarters more purchasing power than at age 62. (See chart on page 13.) The potential gain in actual benefits (future, inflated) should be even higher (in this case, 125%) because Social Security benefits are adjusted for inflation via annual cost-of-living adjustments (COLAs).

Exhibit 3 shows total Social Security benefits pretax in today's dollars, depending on when benefits begin and how long they are paid, assuming a \$28,092 annual benefit at full retirement age of 66 compared with a \$20,952 benefit at 62 or a \$37,260 benefit at 70. Analyzing whether you should take benefits at a reduced rate before reaching full retirement age or whether you might be better off in the long run by waiting for your scheduled benefit at full retirement age or later really depends on whether you can afford to delay receiving benefits, how long you expect to live, and what position you want to leave your surviving spouse in. For example, a person who receives a pretax benefit of \$20,952 starting at age 62 will have received the same total benefits by 77 (16 years) as if he or she had started receiving a \$28,092 benefit at 66. From 78 on, the cumulative benefit is greater if this individual had waited to begin benefits until full retirement age (assumed to be 66 in this example).

Likewise, if this individual delayed benefits until age 70, thus qualifying for a benefit of \$37,260, his or her cumulative benefits would be greater from age

Exhibit 3. Total Social Security Benefits (in Today's Dollars) Received, Depending on When Age Benefits Are Initiated

(Assuming \$20,952 Annual Benefit at Age 62; \$28,092 at Full Retirement Age of 66; and \$37,260 at Age 70, Matching the Assumptions for Exhibit 2 on Page 13)



Source: T. Rowe Price Retirement Income Calculator (troweprice.com/ric)

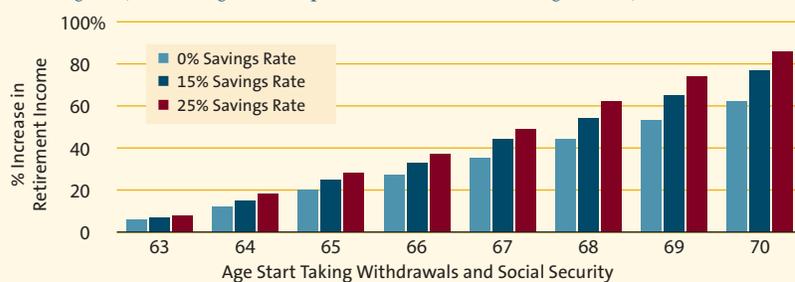
80 on compared with starting benefits at 62 and from age 82 on compared with starting benefits at 66. Although 80 or 82 may seem a long way off, T. Rowe Price financial planners cite results of actuarial studies that urge married investors who are 65, for example, to plan for at least one spouse living in retirement to 95.

If our hypothetical Social Security recipient lives to 82 or longer, he or she ultimately would receive more total benefits if he or she began taking them at 70 than if he or she started at 66 or 62, even though benefits were paid over a shorter period. Moreover, if that

recipient is married and has the higher retirement benefit of the two spouses, the spouse would assume a survivor benefit of \$37,260 per year (in today's dollars) versus the much lower \$20,952 annual survivor benefit. The survivor benefits are also increased annually for any COLAs, granted by the Social Security Administration to keep pace with inflation. This means that the positive difference to the survivor by his or her spouse initiating benefits at age 70 is nearly twice as much purchasing power per year for the rest of his or her life.

Exhibit 4. The Combined Impact (in Today's Dollars) of Working Longer and Delaying Withdrawals and Social Security

Cumulative Increase in Retirement Income From Investments and Social Security for Each Year After Age 62 (Continuing the Example From Exhibits 1–3 on Pages 12–14)



This chart shows the cumulative percentage increase in total retirement income from both working and saving longer and delaying Social Security for each year beyond age 62, depending on whether 25%, 15%, or 0% of wages is invested each year. The assumptions are the same as for Exhibits 1–3 (the charts on pages 12–14) that show gains from just working longer or from delaying Social Security benefits.

So, for example, if this preretiree worked and delayed withdrawals and Social Security until age 65, his or her annual combined retirement income from investments and from Social Security is estimated to be 28% greater than if he or she had retired at 62, assuming he or she saved 25% of his or her salary each year. Even if none of the annual earnings were saved, the preretiree's income would be 20% greater at 65 because he or she did not have to tap into his or her retirement savings while continuing to work, and he or she delayed taking Social Security benefits, which increase greatly in value each year they are postponed (up to age 70). If this individual worked until 70 and saved 25% of salary, his or her combined retirement income would be 86% greater than at 62.

Sources: T. Rowe Price and its Retirement Income Calculator (troweprice.com/ric)

“Extreme care must be taken when deciding at what age to begin taking your Social Security payments,” Ms. Fahlund cautions. “The annual amount, at whatever age you pick to begin taking your retirement benefit through Social Security, will be locked in [adjusted for inflation or possible other credits] for the remainder of your life—and if you’re married and have the higher benefit amount, that will likely be the amount locked in for your surviving spouse as well,” she says.

Three Steps Combined

Taking all three steps to increase potential retirement income—continuing to work and save at a 15% rate and delaying Social Security and savings withdrawals—could increase the purchasing power of total retirement income from retirees’ combined investments and Social Security benefits by about 7%–8% for each year after 62, or 25% in three years (as reflected at the 15% savings rate level in Exhibit 4.)

And doing that from age 62 to 70 would *almost double* total retirement income from investments and Social Security in today’s dollars.

To boil this down, here is another way to look at the overall benefit of working longer and delaying Social Security benefits. If a 62 year old wants about a 35% increase in the purchasing power of his or her retirement income from investments and Social Security, then he or she could:

- Retire in four years at 66 by saving 20% of his or her salary annually.
- Retire in four and a half years at 66½ by saving 15% of his or her salary annually.
- Retire in five years at 67 by spending rather than saving his or her additional earnings.

(These illustrations assume that the retiree does not begin taking Social Security or withdrawals from savings until he or she stops working.)

Keep in mind that, for those who continue working and begin Social Security benefits prior to attaining full retirement age (66 for most baby boomers), some benefits could be temporarily withheld depending on the amount of wages earned—this is called the “earnings test.”

In general, analyzing whether preretirees

should decide to take benefits early, at age 62, or whether they would be better off in the long run by waiting for increased benefits until as late as age 70 really depends on whether they can afford to delay receiving benefits; whether they are married; and, to some extent, how long they expect to live.

It’s often easy to underestimate longevity, particularly because married couples may neglect to take into account their joint life expectancy when it comes to Social Security.

“Many financial planners used to recommend taking your Social Security benefits as soon as you become eligible,” Ms.

Fahlund says. “But today, with greater longevity, delaying Social Security for as long as possible may be the best strategy if you can afford it.”

Taking Withdrawals

The third and fourth major decisions faced by preretirees—their withdrawal amounts and their portfolio’s asset allocation in retirement—boil down to figuring out how to maximize the amounts they can withdraw initially from their retirement savings without running out of money during their lifetimes.

While working longer, saving more, and delaying Social Security benefits can increase total retirement income, deciding on an appropriate initial withdrawal amount from portfolio assets and adjusting that amount as necessary can go a long way toward lowering the risk that retirees outlive their resources.

In most cases, “your ability to avoid running out of money is driven more by your initial and subsequent withdrawal amounts than by your asset allocation strategy, which for many investors is counterintuitive,” Ms. Fahlund says.

The T. Rowe Price Monte Carlo study on page 20 shows that:

- For a 30-year retirement, an initial withdrawal amount of 4% from a balanced portfolio of assets (with 3% annual increases in the withdrawal amount for inflation) would provide as high as an 89% chance of having assets remaining at the end of this period. A 5% initial withdrawal amount with inflation adjustments, on the other hand, reduces these odds to a range of 40%–65%, depending on the asset allocation strategy.

- If retirees suffer poor portfolio returns in the first few years of retirement, they should consider lowering their withdrawal amounts temporarily or at least holding their annual withdrawals flat for a while instead of increasing them for inflation. Extensive analysis by T. Rowe Price has demonstrated that this approach is much more advantageous than, for example, attempting to counteract a market downturn by dramatically reducing the level of equities—and hence the long-term growth potential—in retirees’ portfolios.

“No analysis can cover every contingency,” Ms. Fahlund says. “But, in general, an initial 4% withdrawal amount (or less) gives preretirees a high probability of not having to worry about depleting their assets too quickly, unless they retire into a severe bear market.” (For additional information on Monte Carlo analysis, refer to Guidelines on Saving for Retirement on page 3.)

Asset Allocation

In general, making minor adjustments to a balanced portfolio in retirement has less impact on financial security than the other three decisions.

However, preretirees often make the serious mistake of assuming that the safest path in retirement is minimizing equity exposure to lower their market risk. Instead, moderate exposure to equities is recommended for diversification, growth potential, sustaining real income, and providing a “cushion” to cover unexpected expenses during a 30-year retirement.

Also, to increase the potential wealth that retirees could draw on in emergencies—or to possibly leave more money to heirs—retirees could opt for somewhat higher allocations to equities, though that does carry greater risk in market downturns.

Ms. Fahlund advises retirees to maintain at least a 40% allocation to equities, even into their 80s, and to keep no more than 30% of their assets in cash or short-term bonds.

“The bottom line,” she says, “is that if you have too much set aside for emergencies in cash, which usually has a very modest annual return, you run the risk of not keeping up with inflation and possibly running out of resources from

which to take withdrawals. And if you have too much invested in stocks, you lessen your ability to cope with market uncertainties and run the risk of having to sell equities during a market setback to provide for income or unexpected contingencies.

“The answer is to maintain a balanced, diversified portfolio—with moderate growth potential and a moderate risk profile.

“With all of these critical decisions—when to stop working, when to start taking Social Security, how much to withdraw from your portfolio in retirement, and determining the right asset allocation strategy—the overarching concepts are to maintain flexibility in your plans for retirement and make thoughtful decisions regarding financial matters that are under your control,” she adds.

“Such preretirement planning can help optimize your financial prospects for years to come.”

Living in Retirement.

Plan for a Successful Retirement

➤➤ While you were accumulating your retirement savings, chances are you evaluated your investment strategy regularly to ensure that you were still on track with your long-term objectives. But what you may not realize is that consistently evaluating your investment strategy is just as important once you're retired and drawing on your retirement assets. Here are some proven ways to help make your retirement a success.

"A good technique is to closely monitor your income and spending as you progress through retirement so you can continue to evaluate whether your original projections are on target," says Christine Fahlund, CFP®, senior financial planner with T. Rowe Price. It is important to recognize that it is the sequence of returns, not just their average, that can make a difference in how long your retirement assets may last. A few poor-performing years in the very early part of your retirement—combined with an overzealous withdrawal strategy—could deplete your retirement savings prematurely. Therefore, by reviewing your strategy at least once a year you can decide whether you will need to reduce your planned withdrawal amounts in the coming year to better preserve your assets. In fact, if you experience very positive market returns for several years in retirement, you may actually be able to adjust your withdrawals to boost your income further.

Adapt Your Budget

Today's retirees could spend up to one-third of their lives in retirement. With increased life expectancies, retirement portfolios need to provide income for longer periods than previously anticipated. In order to sustain your retirement income, it's important to reexamine your budget periodically to determine whether you're spending within your means.

In addition, it's helpful to separate non-discretionary expenses from discretionary ones, creating a list of what you need versus what you may want. "It should be a red flag if you're not paying your credit card bills in full every month," says Ms. Fahlund. "Try to avoid acquiring new debt by budgeting for big-ticket replacements, such as large appliances. For example, if you save \$250 per month

for your next car and earn a 5% after-tax annual rate of return, in five years of investing you will have accumulated almost \$17,000, which could go a long way toward purchasing that car."

And remember that if most of your retirement savings are in tax-deferred investment accounts, you will most likely owe income taxes on your pretax contributions and any earnings when you withdraw the assets. So you may have less to spend than your actual withdrawal amount.

Fine-Tune Your Investment Strategy

Knowledgeable investment choices can enhance the potential of your long-term retirement assets. "The growth potential of stock exposure may reduce the risk that inflation will significantly decrease the purchasing power of your portfolio during retirement," says Ms. Fahlund. "Retirees who think they should be holding 20% of their retirement savings in equities need to reconsider this approach." Ms. Fahlund notes that in order to keep pace with inflation, those investors in and approaching retirement should consider an allocation to equities of 60% to 40%, gradually decreasing their equity exposure to 30% and 20% as they age from their 80s into their 90s.

Take Control

Successfully managing your retirement also involves anticipating life occurrences that might affect your finances. For example, if you haven't already, make a decision about long-term care (LTC) insurance. This insurance can help cover nursing home costs or assistance in your own home, should it become necessary. The older you are, the more LTC insurance is likely to cost. If you think you may want LTC insurance to protect you and your spouse from potentially costly

expenses later in life, now is probably the best time to buy it—while you are insurable and your premiums are still reasonable. "Since most people want to continue living at home, you may want to think of this as 'stay in my own home' insurance," says Ms. Fahlund.

Rethink your plans if your retirement housing choices are costing you more than you thought they would. You may want to consider moving to a residence that is less costly and/or easier to maintain. "Don't buy anything that might involve taking on new mortgage debt," says Ms. Fahlund. "Instead, buy something less expensive than your current dwelling so you can utilize the profits from the sale to add to your reserves." Also, you may want to compare what your cost of living might be if you moved to another part of the country—say, to be closer to your children or grandchildren.

Building in financial safeguards will enable you to enjoy this new phase of your life—whatever you choose to do. For some retirees, it may mean embarking on a new career or extensive travel. If you find you need additional retirement savings, working part time is one way to help close any gap between retirement spending and income.

Retirement planning isn't limited to something you do only before you retire; it's an ongoing process of reviewing and fine-tuning. Given today's longer life spans, you and your spouse may live 30 years or more in retirement. Reexamining your financial plans after your first years in retirement and assessing them on a regular basis can help ensure that you have the assets you need to last your lifetime.

Determining a Realistic Withdrawal Amount and Asset Allocation



Many people look forward to retirement, but it can be one of the most complicated stages of life from a financial planning point of view. In addition to charting a suitable investment strategy, retirees need to consider estate planning issues, health insurance needs, and—one of the thorniest decisions—how much they can afford to spend each month without jeopardizing their future financial security.

Retirees must consider the risk of outliving their assets. How should they reconcile that possibility with a desire to maximize annual income so that their retirement years are as fulfilling as they expect?

“For many investors, the most important issue to focus on when they retire is choosing a sustainable monthly income amount,” says Todd Cleary, head of financial planning for T. Rowe Price. “The effective resolution of the other planning issues, including your investment strategy, is driven by this key decision.”

Also, with more people retiring without guaranteed pension income due to the prevalence of defined contribution retirement plans, longer life expectancy, and potential changes in Social Security, it has become more important than ever to develop a realistic income plan that can maintain purchasing power over a long period of time, perhaps 20 to 30 years.

Determining a reasonable initial withdrawal amount from your retirement assets will be influenced by various factors, including your expectations for investment returns and inflation, your lifestyle, health concerns, how long you expect to live, how much money you may want to leave your heirs, and how much volatility you are willing to assume in your investment portfolio.

Based on our experience with clients and sophisticated computer analysis, the firm’s planners suggest that people should probably spend more conservatively than they expected if they want to be reasonably sure of not depleting their assets prematurely.

Taking into account inflation, the variability of market returns, and average life expectancy, they conclude that a relatively “safe” initial withdrawal amount is 4% (or less) of portfolio assets the first year of retirement, assuming this amount is increased by 3% annually to keep pace with inflation throughout retirement.

“No analysis can predict the future, but a 4% initial withdrawal gives you a high probability that you won’t run out of money, using a reasonably diversified investment strategy,” Mr. Cleary says. “Once you go much over that percentage, you have to start worrying about the possibility of depleting your assets too quickly.”

Determining the Odds

The remainder of the studies in this booklet were completed using T. Rowe Price’s sophisticated internal Monte Carlo program. Instead of relying on an average annual rate of return, T. Rowe Price’s program models thousands of possible market scenarios to determine the probability of success for a broad variety of retirement withdrawal strategies.

The tables on the next page show the estimated probability (simulation success rate) of maintaining various spending rates throughout retirement, depending on the investor’s initial withdrawal amount, time horizon, and asset allocation. The analysis reflects a broad range of investment and spending strategies tested over 100,000 possible scenarios of market performance. The guidelines can be applied for any amount of retirement assets.

Many retirees may have to make trade-offs between how much they can spend, the likelihood that they will be able to sustain assets in retirement, and the investment risk they are willing to take. For example, the model indicates that an investor retiring at 65 with a 20-year investment horizon using a balanced portfolio (60% stocks, 30% bonds, and 10% short-term bonds) has a 75% chance of maintaining a 6% initial withdrawal amount (with 3% annual increases) and an extremely high probability (over 90%) of maintaining an initial 4%–5% withdrawal amount.

What if this investor decided to retire earlier? Although the same strategy at age 60 (assuming a 25-year retirement period) may offer only a 50/50 chance of sustaining a 6% initial withdrawal amount, 5% would be more reasonable. If the investment horizon were extended to 30 years, the investor would have to consider a 4% initial withdrawal to achieve a high probability of not running out of money.

“There’s a big leap between a 20- and 30-year retirement horizon,” Mr. Cleary says. “If you are planning for more than 20 years, you have to consider lower initial withdrawal amounts and having at least a 40%–60% equity exposure.”

Effect of Portfolio Strategy

“We have found that your ability to avoid running out of money in retirement is driven more by your initial withdrawal amount than your asset allocation strategy, so investors should focus on that first,” says Christine Fahlund, CFP®, a senior financial planner at T. Rowe Price. Those who begin retirement with a conservative withdrawal amount, such as 4% of their starting balance, and are planning on a 20- to 25-year time horizon do not necessarily need to assume much volatility in their investment approach. As indicated in the chart on the next page, a strategy with only 20% invested in equities, a 4% initial withdrawal amount, and a 25-year time horizon has a 98% simulation success rate.

However, if you want to spend more or plan on the possibility of living longer or would like to create a cushion for emergencies or for your heirs, the asset allocation decision becomes more important. Under these circumstances, “Our analysis shows that retirees with long time horizons [about 30 years] should generally have no more than 20%–30% of their assets in cash and that they should keep at least 30%–40% in

How Much Can You Withdraw in Retirement?

This table shows the estimated probability of maintaining several initial withdrawal amounts throughout retirement, depending on the investor's asset allocation and time horizon. The analysis assumes pretax withdrawals from tax-deferred assets and can be applied to any size retirement portfolio.

20-Year Retirement Period

Initial Withdrawal Amount	80/20	Stock/Bond Mix*		
		60/40	40/60	20/80
Simulation Success Rate**				
7%	56%	52%	44%	26%
6	74	75	75	71
5	89	92	95	97
4	97	99	99	99

25-Year Retirement Period

Initial Withdrawal Amount	80/20	Stock/Bond Mix*		
		60/40	40/60	20/80
Simulation Success Rate**				
7%	39%	30%	17%	4%
6	57	53	44	25
5	77	78	78	73
4	91	94	97	98

30-Year Retirement Period

Initial Withdrawal Amount	80/20	Stock/Bond Mix*		
		60/40	40/60	20/80
Simulation Success Rate**				
7%	28%	19%	7%	1%
6	45	38	24	7
5	65	63	57	40
4	84	87	89	89

35-Year Retirement Period

Initial Withdrawal Amount	80/20	Stock/Bond Mix*		
		60/40	40/60	20/80
Simulation Success Rate**				
6%	37%	28%	14%	2%
5	57	52	41	19
4	78	79	77	71
3	93	96	98	99

Source: T. Rowe Price

*The following asset allocations include short-term bonds: 60/40 includes 60% stocks, 30% bonds, and 10% short-term bonds; 40/60 includes 40% stocks, 40% bonds, and 20% short-term bonds; and 20/80 is composed of 20% stocks, 50% bonds, and 30% short-term bonds.

**T. Rowe Price has analyzed a variety of retirement spending strategies using computer simulations to determine the likelihood of "success" (having at least \$1 remaining in the portfolio at the end of the retirement period) for each strategy, shown as a percentage in each grid. The analysis for each retirement strategy is based on running 100,000 hypothetical future market scenarios that account for a wide variety of return possibilities. The initial withdrawal amount is the percentage of assets withdrawn at the beginning of the first year of retirement as a lump sum made at the beginning of each year and is inflation adjusted (3%) annually. Investment scenarios are based on hypothetical (not historical) annual rates of return for the 3 asset classes represented in the portfolio mixes. The return assumptions of 10.00% for stocks, 6.50% for bonds, and 4.75% for short-term bonds are based on our best estimates for future long-term periods. The assumed expense ratios for these asset classes are 1.211% for stocks, 0.726% for bonds, and 0.648% for short-term bonds.

These examples present only a range of possible outcomes. Actual results will vary with each use and over time, and such results may be better or worse than the simulated scenarios.

Source: T. Rowe Price Associates, Inc.

percentage of each portfolio's original purchasing power remaining after 30 years, expressed in today's dollars. In half of the simulated scenarios, each portfolio strategy had a balance equal to at least this percentage of its starting value, adjusted for inflation.

For example, if the investor retired with \$500,000, of which 60% was in equities, 30% in bonds, and 10% in short-term bonds, it is likely that, after a 30-year retirement period, the portfolio would still have a median balance of \$395,000 in current dollars (79% of its original value). With a 20% equity position, on the other hand, the T. Rowe Price analysis suggests that the median balance would be only \$180,000, or 36% of the original value. (The "median" portfolio ending balance for a single strategy

equities," according to Jerome Clark, portfolio manager of the T. Rowe Price Retirement Funds.

"If they have a much bigger cash position than that and consequently trim their equity exposure, they increase the likelihood of failing to maintain income throughout their retirement years."

Creating a Cushion

Pursuing a moderately growth-oriented investment strategy in retirement may also increase the amount of wealth (or cushion) the investor has to fall back on during retirement or to leave behind. The

table on the next page reflects a couple of measures of retirement security. The top row shows the probability (simulation success rate) that the investor will not run out of assets in retirement and sustain this income stream, based on various portfolio strategies tested over 100,000 potential market scenarios and assuming a 4% initial withdrawal amount. With this conservative withdrawal, each of the investment strategies provides more than an 80% chance of not running out of money.

The second row, based on the same simulation analysis, shows the median

is the one in which half of the ending balances are greater than this amount and half are less.)

If the initial withdrawal amount were 5% instead of 4%, not only do the simulation success rates drop sharply, but so do the simulated median portfolio balances after 30 years. In this case, in half the simulations the retirement income strategy invested in a 60/30/10 portfolio could still provide purchasing power of 26% of its original value, while the 20/50/30 portfolio, with the same 5% initial withdrawal amount, might have run out of money by that time.

“Generally speaking, maintaining or conserving your purchasing power may benefit you and your family in several important ways,” Ms. Fahlund says. “You are likely to have more assets in your investment portfolio throughout retirement to cover special events as well as medical expenses or other emergencies, to have more investable assets to generate income if you outlive your projected life expectancy, and to have more assets to leave your heirs, as well.”

Coping With Uncertainty

If you expect to rely on your investment assets as the primary source for your retirement income, T. Rowe Price planners suggest choosing a strategy that has at least a 70% simulation success rate

or chance of not running out of money. They also advise planning on a 30-year retirement horizon if the retiree is in his or her early to mid-60s. While that may seem like a long time for maintaining retirement income, the IRS life expectancy tables estimate that a 60-year-old individual should live, on average, another 25 years. But that means half of those age 60 today are expected to live longer than that.

Those who want the assurance that at least a portion of their retirement income is guaranteed for life might also consider a fixed or variable annuity for part of their assets, especially if they do not have guaranteed pension income. Depending on their particular situation, a deferred or an immediate annuity might be more appropriate.

With the shift toward defined contribution plans (such as 401(k) plans), many retirees must now assume the risk of providing themselves an income through all market environments over a potentially long time. For that reason, shifting some of that risk to an insurance company for a fee may be appealing. Many decisions related to the purchase and annuitization of the particular insurance products, however, are irrevocable, so it is very important to understand the consequences of each choice before taking action.

To further cope with market uncertainty and reduce the chances of having to sell investment assets during a market setback to meet unexpected contingencies, retirees are also advised to maintain a reserve or emergency savings account of extremely liquid, short-term investments that is not used to generate monthly income in retirement.

Finally, retirees are urged to withdraw assets from their accounts in a tax-efficient manner (generally preserving tax-deferred assets as long as possible), to take minimum distributions from their IRA and other retirement accounts as required, and to carefully review their beneficiary designations for these accounts periodically.

Once an income strategy in retirement is determined, the plan should be reviewed annually, especially if your portfolio suffers a decline in value, you have to withdraw more than you had planned, or your personal circumstances change.

By carefully developing your retirement financial plan now and understanding the possible effects of time, spending rate, and investment approach on its potential success, you can reduce the financial stress often associated with retirement and avoid having to make undesirable adjustments along the way.

Impact of Portfolio Strategy on Retirement Security

4% Initial Withdrawal Amount With 30-Year Retirement Period

	Portfolio Strategy			
	Percentage invested in stocks, bonds, and short-term bonds			
	80/20/00	60/30/10	40/40/20	20/50/30
Simulation success rate for sustaining retirement income ¹	84%	87%	89%	89%
Percentage of original portfolio's purchasing power after 30 years (median wealth) ²	99%	79%	59%	36%
Median wealth after 30 years based on \$500,000 portfolio at retirement (in current dollars) ²	\$495,000	\$395,000	\$295,000	\$180,000

¹The simulation success rate reflects the probability of sustaining retirement income over 30 years for each portfolio strategy based on 100,000 potential market scenarios, assuming 4% of portfolio assets is withdrawn the first year of retirement and that amount increases by 3% each year for inflation. Return assumptions, net of estimated expenses, include 8.79% for stocks, 5.78% for bonds, and 4.10% for short-term bonds.

²This reflects the median percentage of the portfolio's original purchasing power remaining after 30 years based on a 4% initial withdrawal amount with 3% inflation adjustments to the withdrawal amount annually. So in half the simulated scenarios for each strategy, the portfolio had an ending balance of this amount or more. For example, if the investor retired with \$500,000 in assets, after all withdrawals, the portfolio with 80% invested in stocks retained 99% of its purchasing power after 30 years, or \$495,000 in current dollars. The portfolio with 40% in stocks would have a purchasing power of 59% or more in half the cases. So pursuing a more aggressive strategy in retirement may increase the chance of having a bigger cushion for emergencies or having more money to leave to heirs. Source: T. Rowe Price

Strategies for Coping After Retiring Into a Bear Market



Retirees should have a plan for sustaining their income over a 30-year retirement. But the best-laid plans can be upset if they find they've retired into a bear market.

In general, if retirees limit their initial withdrawals to 4% of their investment portfolios—and then increase that amount by 3% a year for inflation—they should stand an almost 90% chance of being able to sustain that income stream over 30 years without running out of money, according to a T. Rowe Price internal Monte Carlo program using thousands of potential market simulations. But what if they happen to retire near the start of a bear market? The short answer is that bear markets can be devastating for new retirees who do not take action to compensate. While their instinct may be to flee the risk of equity markets, a more effective strategy, as a new T. Rowe Price analysis shows, is to temporarily reduce annual withdrawals from their nest eggs.

“Our research shows that withdrawing too much in retirement—particularly early in retirement—is the most likely cause of running out of money,” says Christine Fahlund, CFP®, a senior financial planner with the firm. “That’s what you need to adjust, and the sooner the better.”

Bear markets—sometimes defined as a drop in the S&P 500 Index of at least 20%—are not infrequent. Over the last 80 years, one has occurred about every three years, with an average duration of about one year and an average decline of 35%, according to Ned Davis Research. Recent retirees may be reviewing their investment and spending plans as a result of the sharp decline in the equity markets.

T. Rowe Price recently analyzed the effect of having retired into such poor market environments. The study shows:

- **The first five years of retirement are critical:** Poor market performance or outright losses in the first five years significantly increase the chances of a retired person outliving his or her money during a 30-year retirement.

“The reason for this is simple: Any money that retirees take out of their portfolios or that they lose in market declines in the first five years of

retirement has a higher cost because it’s money that won’t be invested to earn returns in succeeding years when the markets recover,” says James Tzitzouris, Jr., investment analyst on T. Rowe Price’s asset allocation team, who conducted the simulation study. “And the less they have invested after a bear market, the less potential they have to benefit from the compounding of any earnings in subsequent years.”

- **Cutting back on withdrawals may be necessary:** If retirees find that they have retired into a bear market, the most effective tactic to sustain a high chance of not outliving their assets is to cut back significantly on the amount of money they withdraw from their portfolios. Or, if that approach is too drastic, they can choose to keep their annual withdrawal amounts constant rather than increasing them each year for inflation as originally planned.

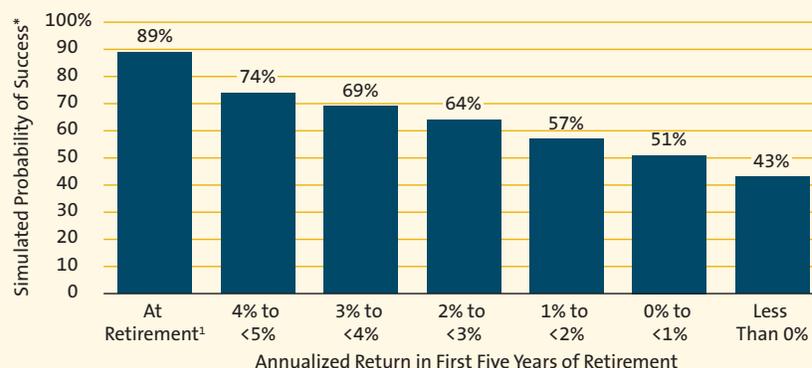
The T. Rowe Price analysis assumes that an investor retires with a \$500,000 portfolio invested 55% in equities and 45% in bonds, takes 4% of his or her portfolio (\$20,000) the first year, and increases that amount by 3% each year to keep up with inflation (\$20,600 in the second year, \$21,218 in the third year, etc.).

Based on T. Rowe Price’s sophisticated Monte Carlo program modeling 10,000 simulated portfolio outcomes, this investor stands an 89% chance of having enough left in the portfolio to sustain this rate of withdrawals over a 30-year time span.

The analysis showed that if the investor’s portfolio had an average annualized return that ranged from less than 0% to less than 5% in the first five years of retirement and continued the original

For Retirement Success, the First Five Years Are Critical

Odds of Success Plummet if Withdrawal Amount Exceeds Portfolio Returns



This chart shows the probability of not running out of money over a 30-year retirement for an investor who withdraws 4% of his or her portfolio the first year and increases the annual withdrawal amount by 3% for inflation. If portfolio returns are weak in the first five years and the investor does not cut back on the amount withdrawn, the likelihood of not running out of money can drop sharply from the 89% probability of success at the start of retirement.

Analysis assumes a static portfolio composed of 55% stocks and 45% bonds.

¹Assumed returns and fees: U.S. large-cap stocks, 10.0% with 1.211% fees; investment-grade bonds, 6.50% with 0.726% fees. The example does not take into account income taxes or required minimum distributions.

*Chances of not running out of money over a 30-year retirement period assuming different annualized rates of return in the first 5 years of retirement. These simulations are based on 10,000 potential scenarios of market outcomes.

Source: T. Rowe Price

plan of withdrawals, the chance of success declined significantly. Instead of an 89% chance of success at the outset, the probability of being able to sustain withdrawals over the next 25 years declined to as low as 43%. (See chart on page 22.)

“If you are taking out more than you are earning from your portfolio in the early years of retirement, you are probably digging a big hole in your plan,” Mr. Tzitzouris says.

This analysis also looked at the effect of running into a bear market during the second five-year period—years six through 10 of a 30-year retirement—after a random set of market returns during the first five years. In that case, a bear market also had a negative impact on the investor’s chances of not running out of money, but to a significantly lesser degree.

Options in Bear Markets

So what can new retirees do if equity markets suddenly turn sour just as they begin to withdraw income from their portfolio? Plenty. Retirees in this situation can still have sufficient retirement savings if they are willing to confront two things they really can control: how much they withdraw from their portfolios and their overall asset allocation.

To examine how a retiree might cope with an actual bear market and how effective different strategies might be, the analysis assumes retirement on January 1, 2000, with the same portfolio strategy and initial withdrawal amount cited earlier.

This analysis uses historical market returns from January 1, 2000, through January 31, 2008, a period that included a deep bear market that ended September 30, 2002, followed by a healthy recovery into late 2007. Returns over the remaining 22 years of the 30-year retirement period

(starting January 2008) are based on a range of simulated outcomes. (See chart below for assumptions about varying asset class returns and expenses.)

During the period studied, the S&P 500 Index of large-cap stocks fell from January 1, 2000, to September 30, 2002, by 42.5%, but from then to January 31, 2008, it recovered with an 86.4% gain. For the entire period, the hypothetical diversified portfolio of 55% equities/45% bonds achieved an overall gain of 34.6% net of expenses.

At the bottom of this three-year bear market in 2002, the retiree’s portfolio had declined 15.3% due to investment performance, and the original \$500,000 balance (after that decline and three years of withdrawals) stood at about \$374,000. At this point, the analysis shows that the chances of continuing the original withdrawal strategy throughout the remaining 27 years in retirement

Options When Retiring Into Bear Markets

In Downturns, Retirees Can Sustain a High Probability of Success by Withdrawing Less or Holding Withdrawals Flat

The chart below outlines four options for handling a 30-year retirement account, starting January 1, 2000, with an account balance of \$500,000 invested in a 55% equity/45% bond portfolio. In this hypothetical example, the retiree withdraws 4% (or \$20,000) the first year and increases that withdrawal amount by 3% annually to keep up with inflation. Actual returns for stocks and bonds are used for the period January 1, 2000, through January 31, 2008, and simulations thereafter are based on 10,000 simulations of possible future market scenarios. The four options below assume the investor retired on January 1, 2000, just before the start of a severe bear market. By September 30, 2002, stocks (as measured by the S&P 500 Index) had declined 42.4% and the investor’s diversified portfolio had declined by 15.3% (assuming that the 55%/45% asset allocation was maintained). The table reflects the impact of that bear market on the investor’s chance of not running out of money over a 30-year retirement—as well as the impact of making certain adjustments to compensate for the misfortune of retiring into a bear market. Past performance cannot guarantee future results. This chart is for illustrative purposes only and does not represent the performance of any specific security.

Account Status	Portfolio Value	Monthly Withdrawal Amount	Odds of Success*	Monthly Withdrawal to Restore 89% Odds of Success
<i>At retirement on January 1, 2000</i>	\$500,000	\$1,667	89%	
<i>At bear market bottom, September 30, 2002</i>	374,096	1,768	57	\$1,325
Results as of January 31, 2008, Assuming Four Different Strategies:				
OPTION 1: <i>Continue withdrawals as planned</i>	\$447,375	\$2,111	78%	\$1,883
OPTION 2: Best Outcome <i>Reduced withdrawal amount on September 30, 2002, by 25% to restore original 89% probability of success</i>	484,245	1,582	99	2,038
OPTION 3: <i>Take no annual inflation adjustments until January 1, 2004</i>	461,799	1,932	89	No action required
OPTION 4: Worst Outcome <i>Switched to 100% bond portfolio on January 1, 2003</i>	337,753	2,111	5	Not feasible

*Represents the percentage of total simulations in which the investor does not run out of money during a 30-year retirement period. The odds of success on January 1, 2000, reflect the initial investment and withdrawal assumptions. The odds of success at the various stages of the options reflect historical return data and any changes in the investment or withdrawal assumptions thereafter. For historical returns, the S&P 500 Index is used for stocks and the Barclays U.S. Aggregate Bond Index is used for bonds. For simulations, stocks are expected to return 10% overall with a standard deviation of 15% and fees of 1.211%; bonds are expected to return 6.5% with a standard deviation of 5% and fees of 0.726%. Portfolios are rebalanced monthly and withdrawals are made monthly. This example does not take into account taxes or required minimum distributions.

Source: T. Rowe Price

without running out of money had declined from 89% to only 57%.

As shown in the chart on page 23, this analysis examined the consequences of four options for coping with the bear market:

- (1) Continuing to take withdrawals as planned and then lowering the withdrawal amount on January 31, 2008, to that required to regain an 89% chance of not running out of money during the balance of the 30-year retirement period.
- (2) Lowering the withdrawal amount by 25% on September 30, 2002—right after the bear market ended—to regain an 89% chance of success, then raising the withdrawal amount five years later on January 31, 2008, because the likelihood of not running out of money over the next 22 years had greatly improved due to the lower withdrawals and the stock market recovery.
- (3) Taking a conservative approach by holding the withdrawal amount constant for the first four years until the bear market had apparently passed and then, starting in 2004, increasing the withdrawal amount by 3% annually for inflation.
- (4) At the start of 2003, right after the bear market had ended, fleeing equities altogether by switching from a 55%/45% portfolio to a 100% bond portfolio.

The most favorable outcome in terms of both monthly income and the median portfolio value at the end of the 30-year retirement was the second option: reducing the monthly withdrawal amount after the bear market ended in September 2002 (but continuing the annual inflation adjustment).

With the strong market recovery that followed, by January 2008 the investor had an almost 99% chance of not running out of money, enabling a significant increase in the monthly withdrawal amount at that time and still ensuring an 89% likelihood of success, as originally desired.

Among the four options, this strategy ultimately provided, as of January 2008, the highest withdrawal amount (\$2,038) and the highest portfolio value (\$484,245).

This strategy proved more successful than waiting until January 2008 to cut back the withdrawal amount (Option 1) or holding the withdrawal amount constant until 2004 (Option 3).

Switching to a 100% bond portfolio (Option 4) proved unsuccessful, since this retiree would be virtually certain of running out of money before the end of retirement. With this tactic, the investor ended up with the highest monthly withdrawal amount (\$2,111) in January 2008, but the lowest portfolio value (\$337,753) and the lowest chance of success (5%).

“In this situation, some investors naturally might want to eliminate their exposure to equities, but stocks have historically provided the best chance of outpacing inflation over the long run,” Ms. Fahlund says. “In this study, the retiree who kept the asset allocation intact but reduced withdrawals for a few years did well, but the investor who panicked and switched to 100% bonds badly hurt the chance of having enough money for retirement by getting out of equities just as the equity market was poised to recover.”

One other option that the retiree might consider if markets had already suffered a significant decline as retirement

neared would be to delay retirement, if possible. A separate T. Rowe Price analysis shows that delaying retirement even a year or two can improve chances of having sufficient retirement savings and increase the level of withdrawals.

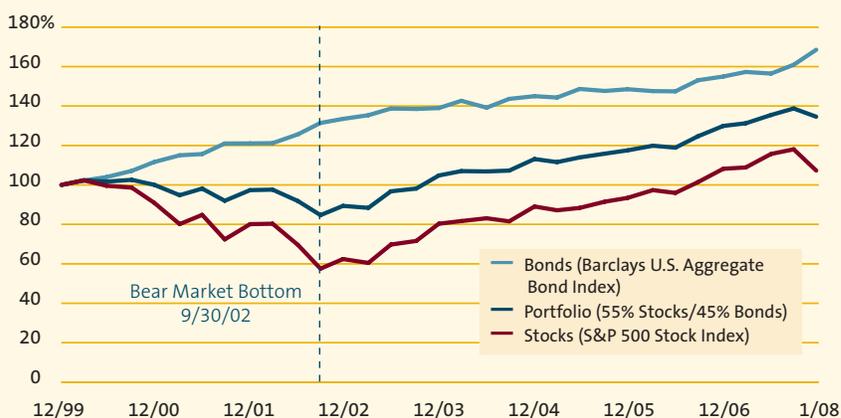
No Predicting

Investors should keep in mind that, while assumptions about average market returns and volatility can be made with some confidence over long periods, there is much less certainty over short periods. No one knows the depth or duration of any bear market or the strength of the recovery.

That, again, underscores the need for investors to control what is within their power: the amounts of annual withdrawals and long-term asset allocations. Starting with a conservative initial withdrawal amount and perhaps cutting back when encountering sustained periods of market decline can help mitigate the impact of such fluctuations on the retiree’s long-term financial success. It may also enable investors to increase withdrawals later as markets recover.

Performance of Stocks, Bonds, and Retirement Portfolio

Total Return Indexed to 100 as of December 31, 1999, Through January 31, 2008



Annualized Return	Bonds	Stocks	Portfolio
January 1, 2000–September 30, 2002	10.5%	-18.2%	-5.9%
September 30, 2002–January 31, 2008	4.8	12.4	9.1
January 1, 2000–January 31, 2008	6.7	0.9	3.7

Source: T. Rowe Price

Your Financial Road Map to Successful Retirement



It could be the birth of a child or grandchild, a rewarding career move, or the day you retire from your full-time career.

As you continue to experience exciting new changes in your personal and professional life, your financial goals will also continue to evolve. Although your financial situation is unique, if you're like most investors today, your primary financial goal is securing a comfortable retirement.

Achieving this goal requires greater strategic planning than ever before. Consider that some of us may spend close to 30 years in retirement. Combined with longer life expectancy, we now face a much greater responsibility to save for our own retirement as Social Security and pension assets account for a shrinking percentage of retirement income.

Implementing a financial strategy that sets both preretirement savings *and* postretirement income objectives is essential for staying on track. In this article, we'll explore the three stages of retirement planning and how T. Rowe Price is helping investors make a successful transition with personalized advice and solutions.

Saving for Your Retirement

More than five years away from retirement

The promise of retirement may seem very distant when you have much of your career ahead of you. But keep in mind that you may eventually enjoy a retirement that could span almost the same number of years you spent working. Therefore, you should be saving at least 15%–20% of your salary annually (including any employer matches) as soon as possible. By saving *early* in your career, your portfolio has sufficient time to grow through compounding. This head start can significantly minimize the savings challenges you will face if you put off saving until you're close to retirement.

Transitioning Into Your Retirement

Five years or fewer away from retirement

Do you already imagine days filled with travel, hobbies, volunteer work, and family? Preparing to retire is a special time for planning how you wish to spend the rest of your days. It's also a critical time of financial evaluation and decision-making. Two of the most important financial decisions you'll need to make are when to leave your full-time career and when and how much to begin withdrawing from your investments. A comprehensive assessment of your transition strategy *prior to retirement* could make the difference between meeting your retirement income goals and not being able to enjoy the retirement lifestyle you had planned.

Managing Your Retirement Income

Currently in retirement

As a busy retiree, managing your retirement income may be the last thing on your mind. But understanding—and following—an appropriate withdrawal strategy is absolutely essential for maintaining your retirement income stream. There are several factors you should consider when designing or evaluating your personal withdrawal strategy, including maintaining an appropriate asset allocation, keeping up with inflation, planning for unexpected expenses, and providing a financial legacy for future generations. If you are already retired, fine-tuning your withdrawal strategy *sooner rather than later* may have a significant impact on how long your assets will last.

A Financial Road Map Personalized Just for You

T. Rowe Price's Advisory Planning Services provide a comprehensive approach to portfolio and retirement planning. Based on the expertise of our professional advisory planning team—including CERTIFIED FINANCIAL PLANNER™ practitioners, we will develop your unique financial strategy with personalized advice and solutions.

"The primary financial challenge for most investors is securing a comfortable retirement," says Christine Fahlund, CFP®, senior financial planner at T. Rowe Price. "Yet our experience tells us that many people underestimate how much money they need to save and overestimate the amount of income they will be able to withdraw when they retire."

"Our Advisory Planning Services aim to put investors firmly in charge of their financial futures by giving them the keys for making appropriate decisions throughout the investment and retirement planning process. T. Rowe Price advisory recommendations are based on sophisticated analysis, our years of investment experience, and, most important, the personal conversations our counselors have with each of our investors to thoroughly understand their needs and preferences."

Our four-step process offers you the best of our capabilities and one-on-one service:

- Step 1 Clearly Identifying Your Financial Goals
- Step 2 Providing Personalized Advice and Solutions
- Step 3 Assisting You With an Implementation Plan
- Step 4 Helping You Stay on Track With Ongoing Advisory Checkups

We Offer Retirement Savings Advice With Portfolio Evaluation

Our investment advice and savings solutions are designed to create a realistic savings plan based on your desired retirement income and anticipated retirement age. In some cases, we may recommend that you set aside additional assets in order to ultimately achieve your retirement income goal.

We Offer Retirement Transition Advice With Portfolio Evaluation

Our investment advice and transition solutions are designed to help you determine when to retire based on the annual retirement income you desire from your investments. We calculate this amount as a supplement to whatever income you receive from Social Security, pensions, and part-time employment.

We Offer Retirement Income Advice With Portfolio Evaluation

Our investment advice and withdrawal solutions are designed to help ensure that your assets will last throughout your retirement. While you may find that you need to decrease your withdrawal amount, a timely adjustment can be a critical safeguard against the premature depletion of assets.

We Offer a Standalone Portfolio Evaluation

Our comprehensive portfolio evaluation is designed to help ensure that your investments are closely aligned with your financial goals. Based on these goals, we will evaluate your overall asset allocation and provide a recommended portfolio that positions you for future opportunities.

Learn More Today

Advisory Planning Services are appropriate for investors with at least \$100,000 or more in investable assets. Please note that the one-time service fee of \$250 will be waived for Enhanced Personal Services¹ clients and investors with \$500,000 or more in investable assets with T. Rowe Price² (including retail and/or Brokerage assets). The fee will be reimbursed for investors bringing at least \$100,000 in new assets to T. Rowe Price. *We invite all other investors to take advantage of our extensive guidance capabilities and resources.*

For additional information, please visit us at troweprice.com/advisoryservices or contact a T. Rowe Price retirement specialist at **1-800-638-5660** weekdays between 7 a.m. and midnight and on weekends between 8:30 a.m. and 5 p.m. eastern time.

Advisory Planning Services are services of T. Rowe Price Advisory Services, Inc., a federally registered investment adviser.

¹Customers with \$1,000,000 or more in assets invested with T. Rowe Price qualify for Enhanced Personal Services. Qualifying assets consist of T. Rowe Price retail, Brokerage, variable annuity, and trust accounts.

²Assets held in estate, corporate, and 401(k) accounts and 529 plans are excluded from the fee waiver criteria.

Getting a Reality Check on Your Retirement Income Plan

Interested in figuring out how much income your nest egg may provide in retirement without exhausting your money? The free, online T. Rowe Price Retirement Income Calculator can help.

The calculator employs the same T. Rowe Price simulation tool used in the article Guidelines on Saving for Retirement on page 3.

This tool, at troweprice.com/ric, enables investors to estimate the odds of not running out of money depending on the size of their withdrawals and portfolio strategy.

The calculator asks each investor for his or her expected retirement age, expected length of retirement, marital status, total retirement assets, monthly income goal, and asset allocation strategy. It also asks for his or her Social Security amount if he or she is retired or provides an estimate (or he or she can put in his or her own) if the investor is not retired yet.

It then advises investors whether or not their desired initial withdrawal amount is reasonable given the resulting success rate as calculated by the tool (the odds of not outliving their assets over the designated retirement period). It shows investors how their chances of success would change if they revise the amount of their withdrawals. Investors can also see how the amounts they can withdraw might change if they revise their asset allocation. The tool also shows how withdrawals and Social Security benefits may increase if the retirement date is delayed.

For example, assume an investor—making \$100,000 a year, contributing 15% to his retirement savings, and utilizing an age-appropriate asset allocation—plans to retire at 65 with a \$500,000 nest egg. He wants a monthly income of \$4,680, with an 80% chance of maintaining that income (and level of purchasing power) throughout a 30-year retirement without running out of money. The tool esti-

mates he would receive about \$2,183 in monthly Social Security benefits, so the remainder—\$2,497—would have to come from his investments.

The calculator shows that taking out \$2,497 a month the first year, with annual increases to that amount of 3% for inflation, gives the investor only about an 46% chance of success. To reach 80%, the monthly withdrawal amount would have to be decreased to \$1,883.

The calculator also shows that if the investor delays retirement and initiating Social Security until age 67, he can reach the 80% chance of success.

The Retirement Income Calculator is not a substitute for a comprehensive retirement income plan, but it can provide a quick reality check for many investors as they begin planning their retirement income strategy.

Learn More

Select Print and Online Resources

Resources Available From T. Rowe Price

These materials reflect over 75 years of experience in investing and helping individuals save for retirement, prepare to retire, or manage retirement income. We believe they may be helpful to you as well.

Saving tax-deferred (view or download information online at troweprice.com/ira or call 1-800-638-5660 to order free kits)

- **IRA**
- **Roth IRA**
- **Rollover IRA**
- **Inherited IRA**

Setting up a small business retirement plan (view or download information online at troweprice.com/smallbusiness or call 1-800-638-3804 to order free kits)

- **SEP-IRA**
- **SIMPLE IRA**
- **Individual 401(k) plan**

Investing for retirement

- **Personal Guides**
(troweprice.com/personalguides)
Building your retirement savings is hard work, and an IRA is one of the most effective retirement options you can use. This tool can help you learn more about IRA tax benefits, invest in the IRA that is right for you, and find the investments that best fit your investment approach.
- **Online Investment Tools and Calculators**
(troweprice.com/investmenttools)
T. Rowe Price offers a variety of tools and calculators that can help you keep track of your investments and guide you toward sound decisions as you plan your financial future.

- **Retirement Income Calculator**
(troweprice.com/ric)
- **Social Security Benefits Evaluator**
(troweprice.com/socialsecurity)
Our easy-to-use tool can help you decide how and when to claim Social Security benefits. Simply plug in your information, select a goal that best matches your situation, and get a suggested step-by-step strategy.

Checking your portfolio mix

- **Morningstar® Portfolio Manager***
(troweprice.com/investmenttools)
Log in to monitor your portfolio's performance and view its underlying holdings with the onscreen X-Ray and Stock Intersection features.

Changing jobs

- **Rollover IRA Guide**
(print)
This kit includes everything you need to open a Rollover IRA with T. Rowe Price.
- **Roll Over Your 401(k) Account Personal Guide**
(troweprice.com/personalguides)
Are you unsure of what to do about your employer-sponsored retirement plan? We can offer you information and insight on your choices. This tool can help you roll over your employer-sponsored retirement account assets and determine the investments that best fit your investment approach.
- **Rollover Planner**
(troweprice.com/rolloverplanner)
Use our Rollover Planner to create a customized worksheet that will guide you through all the steps of the rollover process.

*All Morningstar tools mentioned are offered by Morningstar, Inc. © 2013 Morningstar Associates, LLC. All Rights Reserved.

Other Resources You May Find Helpful*

The Securities and Exchange Commission (SEC) posts a list of noncommercial investor education sites at [sec.gov/investor/links.shtml](https://www.sec.gov/investor/links.shtml). You may also want to visit the sites listed below:

- American Association of Individual Investors: [aaai.com](https://www.aaai.com)
- American Savings Education Council:
[choosetosave.org/ballpark](https://www.choosetosave.org/ballpark)
Helpful savings tools, such as the Ballpark Estimate Worksheet
- Certified Financial Planner Board of Standards:
[cfp.net/learn](https://www.cfp.net/learn)
Click on “Learn About Financial Planning” for information and advice about selecting a financial planner
- Internal Revenue Service: [irs.gov](https://www.irs.gov)
- Morningstar, Inc.: [morningstar.com](https://www.morningstar.com)
- Pension Benefit Guaranty Corporation:
[pbgc.gov](https://www.pbgc.gov) and [sec.gov](https://www.sec.gov)
- Social Security Administration: [ssa.gov](https://www.ssa.gov)
- U.S. Department of Labor: [dol.gov/ebsa/publications](https://www.dol.gov/ebsa/publications)
“Top 10 Ways to Prepare for Retirement” and “Women and Retirement Savings” are among free publications available

*These resources are listed as a convenience to our readers. T. Rowe Price is not responsible for the information contained on the websites.

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