



## The Responsible Investor

Clients who underfund their retirement accounts must rely on portfolio performance to pick up the slack—to their detriment.  
By Craig Israelsen

**T**wo engines of growth power an investment portfolio—contributions from the investor and asset growth produced by the performance of the investment portfolio. Contributions are largely controllable by the investor, while performance (particularly in the short run) is not. As a result, investors who rely on the portfolio performance to do the heavy lifting (that is, to make up for insufficient contributions during their working years) will usually fall into the trap of having too much equity exposure and therefore be exposed to too much risk.

The performance or return of an investment portfolio should accomplish two primary goals—preserve and protect the contributions of the investor and provide a modest rate of return. Understandably, in an era of supersize meals, drinks, vehicles, houses and egos, the notion of a modest rate of return may sound rather unsophisticated. Nevertheless I'm suggesting that portfolio performance should never be expected to

make up for under-saving on the part of the investor.

It is our job as investors to contribute adequately to our retirement investment accounts. A contribution rate of 3% to 4% of our income into our 401(k) accounts or IRAs is simply inadequate. When contributions are inadequate, portfolio performance is unable to compensate for the shortfall, as the following analysis will show.

### **A LOSER'S GAME**

Sadly, many investors view the performance of their investment portfolio as the primary engine of growth rather than their own contributions. With that incorrect mind-set, investors tend to focus on hot stock tips, are more prone to jump in and out of mutual funds based on short-term performance and select asset allocation models that are overly aggressive. There is no investing plan, only erratic emotionally driven buy-and-sell decisions. Such behavior is commonly referred to as chasing returns. It's expensive, and it's a loser's game.

Why would otherwise rational individuals develop irrational performance expectations for their retirement portfolios? A 2009 retirement study by T. Rowe Price (*Revisiting T. Rowe Price's Asset Allocation Glide-Path Strategy*) said it best: "Relatively few retirees have saved enough... because many investors under-save and overspend, they tend to need help from their portfolios."

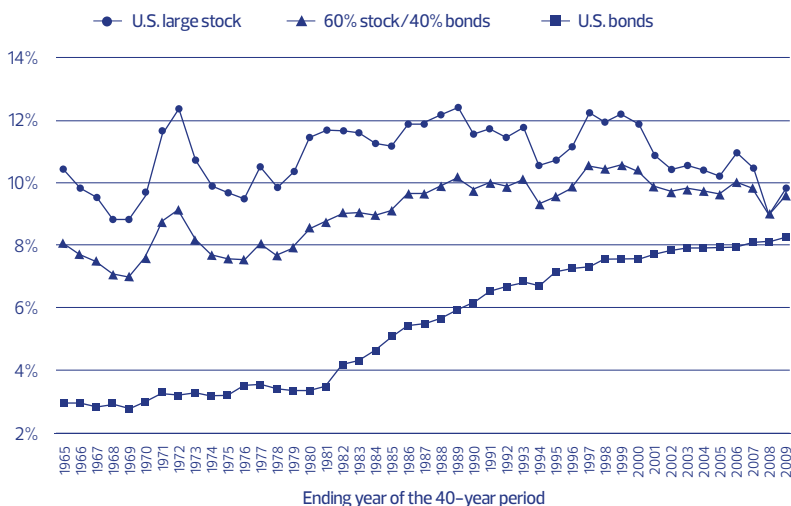
Disappointing outcomes are likely when investors "need help" from their portfolios. Indeed, the phrase "need help" is a significant understatement. The blunt truth is that far too many investors expect their retirement portfolio to generate heroic performance that will save them from years of under-contributing to their retirement accounts. This misguided hope leads to portfolio allocations that are far too equity-heavy close to retirement age. Indeed, the meltdown in 2008 of millions of retirement accounts held by individuals over the age of 60 is all the evidence we need.

People who have saved adequately throughout their working career don't

## GREAT EXPECTATIONS

From 1926–2009, a 100% domestic large-cap stock portfolio only returned 12.4% (or more) on two occasions.

Rolling 40-year returns from 1926 through 2009



Source: Craig L. Israelsen, using data from Morningstar Principia

need an aggressive portfolio when they are over 60 years old. They have already done all the heavy lifting throughout their working career. At that point, the portfolio's main task is to keep all the contributions safe while providing a modest return.

### HOW UNDERFUNDING HURTS

Consider this sobering fact. As of June 2009, the median balance in a defined contribution plan (such as a 401(k) account) among people 65 years old and older was \$56,212, according to the Employee Benefits Research Institute. The median is the midpoint. That means that half of all the defined contribution plans in the United States owned by people 65 or older have a balance of less than \$56,212.

Why are so many retirement account balances so small? The

answer (to reiterate the point made by T. Rowe Price's study) is insufficient contributions—which has nothing to do with asset allocation or portfolio performance. It's like trying to drive from New York to Los Angeles on one gallon of gas. It's not possible because the gas tank is underfunded.

Consider a simplistic, but illustrative, example. A 25-year-old worker begins her career earning \$35,000 per year. Her salary increases 3% annually over the next 40 years. If she invests 10% of her income (which could represent a 10% savings rate by her alone or a 6% savings rate by her and a 4% match from the employer) into a 401(k) each year, she will have a nominal balance of \$275,000 accumulated by age 65 assuming a rate of return of 0%. She has over a quarter of a million dollars entirely as a result of her own

contributions—representing the first engine of growth.

Now let's consider the second engine of growth, namely portfolio performance. If her 401(k) account averages an annualized return of 6% per year, her account value at age 65 will be \$880,000 (of which \$275,000 was her contributions). Clearly the return of the portfolio is a significant part of the ending account value, but so are her contributions.

Let's now assume that our 25-year-old worker invests only 2% of her salary each year until she retires at age 65. Assuming a 0% return in her retirement portfolio, she will have an account balance of \$55,000. Assuming a 6% average annualized return over 40 years, her balance would only be \$176,000.

To achieve an ending balance of \$880,000 at age 65 (with her low 2% contribution rate), her retirement portfolio would need to generate an average annualized return of 12.4%. In other words, her inadequate contributions force the portfolio to do the heavy lifting.

### WHAT'S REASONABLE?

Can a portfolio reasonably be expected to produce an average annualized return of 12.4% over a 40-year period? To address this question, let's take a look at the performance of several key asset classes since 1926. We will consider the S&P 500 (large-cap U.S. stock), U.S. bonds and a 60/40 balanced mix (60% large-cap U.S. stock and 40% U.S. bonds).

The chart "Great Expectations," above, shows forty-five 40-year average annualized rolling returns (from 1926 through 2009) for U.S. large stock, U.S. bonds and a 60% stock/40% bonds mix. In other words, each individual square, triangle or

## A TALE OF TWO INVESTORS

If an investor starts saving for retirement at 45, she must save at least 20% of her salary each year to reach \$800,000. If she started saving 20 years earlier and saved 10% of salary, she would have over \$1.4 million at retirement.

### STARTING AT AGE 25 Salary at age 25 = \$35,000 Annual Salary Inflation Rate = 3%

Portfolio Return	Total Contribution Rate (% of Salary + Employer Contribution)				
	2%	4%	6%	8%	10%
6%	176,002	352,005	528,007	704,010	880,012
8%	281,436	562,872	844,309	1,125,745	1,407,181
10%	464,253	928,506	1,392,758	1,857,011	2,321,264
12%	784,445	1,568,890	2,353,334	3,137,779	3,922,224

### STARTING AT AGE 45 Salary at age 45 = \$63,000 Annual Salary Inflation Rate = 3%

Portfolio Return	Total Contribution Rate (% of Salary + Employer Contribution)				
	12%	14%	16%	18%	20%
6%	389,213	454,082	518,950	583,819	648,688
8%	481,468	561,713	641,958	722,202	802,447
10%	600,347	700,404	800,462	900,520	1,000,578
12%	753,809	879,444	1,005,079	1,130,714	1,256,349

Note: Ending account balances assuming various contribution rates and portfolio annualized returns.

Source: Craig L. Israelsen

circle represents performance over a specific 40-year period. The first 40-year period was from 1926 to 1965, the second from 1927 to 1966 and so on.

A 100% bond portfolio (shown as squares) and a 60% stock/40% bond portfolio (triangles) never produced an average annualized return of 12.4% over any of the forty-five 40-year periods from 1926 through 2009. In fact, a 100% U.S. large-cap stock portfolio (dots) only produced the needed return of 12.4% (or more) on two occasions. Of course, a 100% stock portfolio will be considerably more volatile than a bond

portfolio or a 60/40 portfolio, which creates a new set of problems for investors who react badly to short-run gyrations in their retirement accounts.

If it is irrational to expect a 12.4% return from a portfolio, what can we reasonably expect? Since 1926, the average annualized return for large-cap U.S. stock over forty-five 40-year rolling periods has been 10.9%, for bonds 5.4% and for a 60/40 balanced portfolio 9.1%. The 60/40 balanced portfolio produced an average return of 8% or higher in 35 of the forty-five 40-year rolling periods (or 78% of the time).

Let's revisit our 25-year-old worker one more time. We will now assume that she invests a total of 10% of her \$35,000 starting salary at age 25 (which could be a 10% total contribution by her or a 6% contribution by her and a 4% employer match). This total contribution rate represents a dramatic improvement upon the typical contribution rate in the United States in recent years.

If her retirement portfolio earns an annualized return of 8% over the 40-year period prior to her retirement, and her salary increases 3% per year, she will have a nominal (that is, not adjusted for inflation) account balance of just over \$1.4 million when she retires at age 65 (see "A Tale of Two Investors," at left). If she waits until she is 45 to starting saving for retirement, it will be imperative for her to save at least 20% of her salary each year to have an anticipated retirement nest egg of at least \$800,000 (assuming a long-run annualized portfolio return of 8%). Even saving twice as much (20% of her salary annually) she will be \$600,000 under what she could have saved had she started 20 years earlier.

A total contribution rate of 10% of income is doable, as is a long-run portfolio return of 8%. These are not academic or theoretical possibilities. These are behaviors that real people can achieve. It may require some sacrifice to save 10% of one's salary. That's okay, sacrifice is good for us. **FP**

**Craig L. Israelsen, PhD, is an associate professor at Brigham Young University, designer of the 7Twelve Portfolio ([www.7TwelvePortfolio.com](http://www.7TwelvePortfolio.com)) and author of *7Twelve: A Diversified Investment Portfolio with a Plan*.**

