



Illustration No. 3

Using TIP\$TER to simulate a financial plan for Grandma and Grandpa

Grandpa and Grandma are each 70 years old and retired. They have accumulated a \$1 million portfolio (all tax-advantaged) and enjoy Social Security benefits of \$30,000/year.

Grandpa and Grandma want to live on \$70,000/year (adjusted for inflation). They don't want to crimp their lifestyle – so they want to treat \$70,000 as an “absolute minimum retirement budget” – but if possible, they would like to leave \$1 million in inheritance to their children and grandchildren. Because they want to benefit their heirs, they would not adjust their spending upward to take advantage of a bull market.

What is the best asset allocation to help Grandma and Grandpa meet their goals? They go to you, a financial planner, and ask for some advice.

Life Status Inputs

Starting with the “Your Life Status” section, you select the “Married man” and enter the grandparent’s age (both 70). You keep TIP\$TER’s default targeted portfolio duration of 30 years. After all, the yellow note toward the bottom of the section indicates that there is only a 3% chance that either grandparent will become a centenarian.

Social Security Inputs

Next, you scroll down to the “Social Security” section. Because the grandparents are already 70 years old, TIP\$TER by default indicates that they have 0 years until Social Security – that is, they are already collecting those benefits.

You enter in the \$30,000/year the Grandparents are receiving in Social Security benefits.

Your Savings Goals Inputs

This part is easy. The grandparents have \$1,000,000 in retirement savings, and they are retired.

Your Return Expectations Inputs

Now you turn to TIP\$TER's "Your Return Expectations" section. There, TIP\$TER asks for the "Real return on TIPS," which is short for Treasury Inflation Protected Securities.

Your Return Expectations	
Look up real yields	
Real return on TIPS:	2.3%
Guidance on ERP	
Extra expected return on stocks:	2.0%

You find some long-dated TIPS yielding a "real return" of 2.3%, so you enter that number.

You understand the concept of the "expected risk premium." After all, you're a financial planner.

You look up the current dividend yield on a total stock market index and make some assumptions about future economic growth. On the basis of those assumptions, you estimate that the total stock market will, in the long run, return about 3.5% above inflation and after expenses. But you figure that a small-value tilted portfolio would yield at least an extra 0.8%, or 4.3% above inflation.

That's a 2% difference from the TIPS yield you just looked up, so you enter in 2% for this input.

Asset Allocation

Next, you go to TIP\$TER's "Asset Allocation" section. Because the grandparents have far more saved up than they need to sustain their fixed \$70,000 lifestyle – and the main purpose of investing, for them, is to enhance the estate they leave to their heirs – you decide to simulate the outcome of a portfolio with a 70/30 split between stocks and TIPS. So you adjust the asset allocation spinners to 70%.

You decide to leave the advanced "Decrease AA by this %/yr" and "Buy low/sell high" inputs at 0%. After all, you can revisit those inputs later and do another simulation.

Asset Allocation	
Click to test a range of asset allocations	
Initial % AA in stocks	70%
Combined expected initial return, with rebalancing bonus:	4.11%
Decrease AA by this %/yr	0.0%
Buy low/sell high: increase AA this % for every 1% market drop	0.0%

Retirement Budget Goals

Retirement Budget Goals	
Retire & start draws in this many yrs:	0
Targeted annual retirement budget:	\$ 70,000
Leave this much for your kids/heirs:	\$ 1,000,000

Now you turn to the “Retirement Budget Goals” section. The Grandparents are already retired, so you enter 0. They want to live on \$70,000/year, so you enter that value.

The Grandparents also hope to leave \$1 million for their heirs, so you enter \$1,000,000 in the appropriate cell.

Fortunately, this is within sight of the estimated \$59,353 median budget that a 70% AA portfolio would support.

TIP\$TER’s Retirement Feasibility Estimates

You noticed that as you entered in these various inputs, TIP\$TER computed the sustainable retirement budget that a risk-free (i.e., 100% TIPS) portfolio would support for 30 years, and still leave \$1 million left for the heirs. It’s quite a bit less than \$70,000, which confirms what you initially suspected: a mixed portfolio is more likely to meet Grandpa and Grandma’s ambitious goals (\$70K/year plus \$1M for the kiddos) than an all-TIPS portfolio.

TIP\$TER’s Retirement Feasibility Estimates	
\$ 52,483	Est. retirement budget a 100%-TIPS portfolio would support
\$ 69,485	Est. median budget a 70%-stock portfolio would support
\$ 71,227	Est. median budget a 100%-stock portfolio would support

Retirement Budget Constraints

Retirement Budget Constraints	
Absolute minimum retirement budget:	\$ 70,000
Max bear market budget: as % of the est. median budget your depleted, stay-the-course portfolio would subsequently support	100%
Min bull market budget: as % of the budget your fattened portfolio, if converted to TIPS, would subsequently support	0%

There’s one last section to fill out: the Retirement Budget Constraints. The Grandparents don’t want to crimp their style, so you put in \$70,000 as their “absolute minimum retirement budget.”

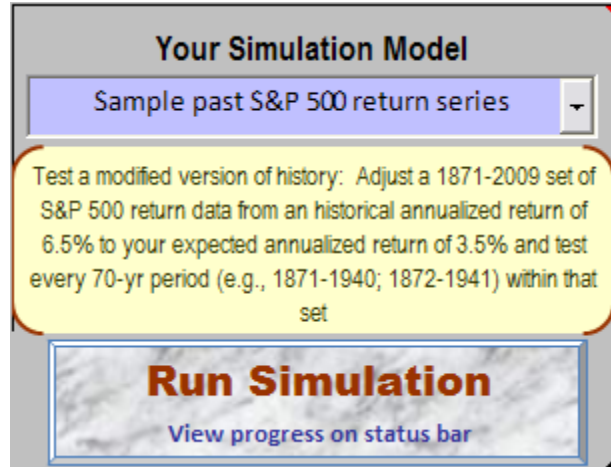
Setting the absolute minimum retirement budget equal to the targeted retirement budget means that there is no “variable floor” to their retirement budget. It’s not going to go below \$70,000, if they can help it. Under these circumstances, the “Max bear market budget” input is irrelevant.

To the extent that their portfolio does really well, the Grandparents would rather leave the extra to the kiddos than spend it. So you set the “Min bull market budget” value to 0%. This eliminates the “variable ceiling” to the Grandparent’s retirement budget.

So here, you are modeling a *fixed* retirement budget.

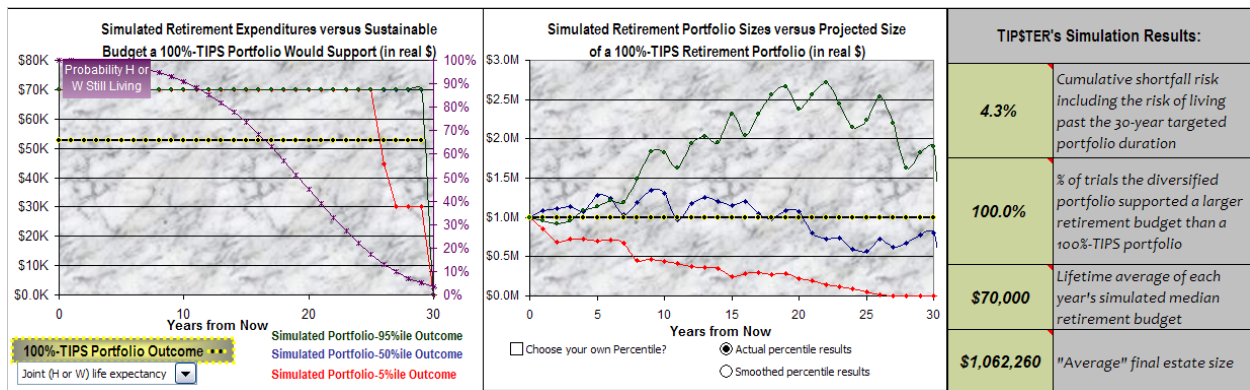
Running the Simulation

Now you are ready to run the simulation. You understand the benefits of using TIP\$TER’s default exploratory simulation model, so you keep this option set at “Sample past S&P 500 return series.”



TIP\$TER’s simulation outputs:

You take a look at the charts and statistics TIP\$TER generates:



The summary statistics to the left indicate that this plan would have about a 6% chance of failure (or about a 94% chance of success). In Grandpa and Grandma’s case, failure includes both (1) the probability of living past 100 (at which point TIP\$TER assumes the portfolio is gone) and (2) ever (even for just one year) falling below the “absolute minimum retirement budget” of \$70,000.

Happily, you observe that the “lifetime average of each year’s simulated median retirement budget” is \$70,000, right on target. You also observe that the simulated “average” final estate size was just above the targeted \$1 million.


Now it’s time to fire up TIP\$TER’s Asset Allocation Risk/Reward Spectrum Chart.

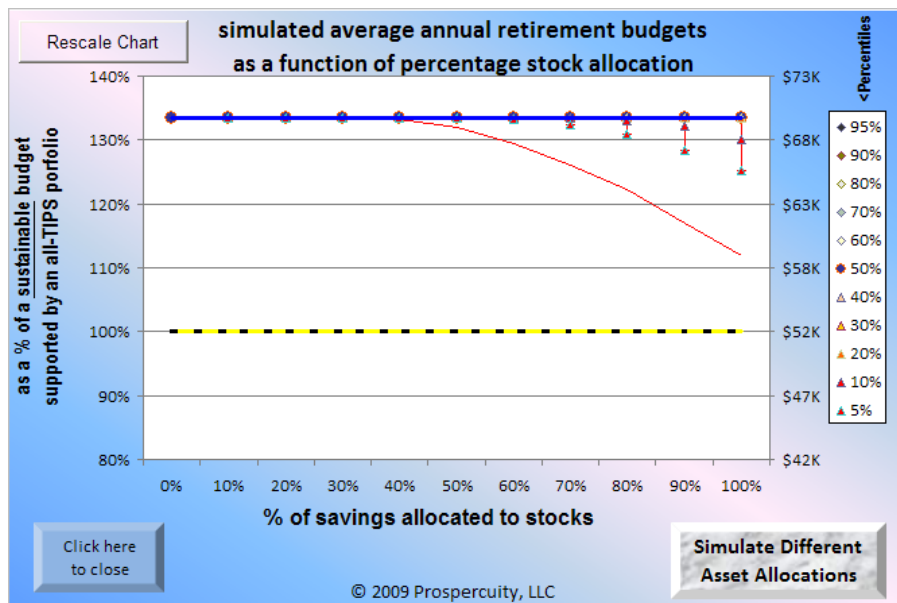
TIP\$TER's Asset Allocation Risk/Reward Spectrum Chart™:



You want to see how the distribution of risks and rewards – measured by a *how-would-it-affect-the-grandparent's-retirement-budget* metric – varies with different asset allocations. So you click on the “Click to test a range of asset allocations” button in the “Asset Allocation section.



Then, you click on the  button, to run the simulation for each of 11 different stock/bond splits ranging between a 0% and a 100% allocation to stocks.



You study the chart. You notice that the results are all capped at \$70,000, which is what you would expect when using a fixed \$70,000 ceiling (i.e., a 0% “Min bull market budget” input) to the Grandparent’s retirement budget.

The chart also reveals the downside risk at higher asset allocations.