Illustration No. 1
Using TIP$TER to simulate a financial plan for Alexis & Scott

Alexis and Scott are a young married couple – both aged 30 – with most of their life well ahead of them.

They are not so sure about the stock market. After all, in their short adult lifetimes, the stock market has *underperformed* CDs.

They have heard about Treasury Inflation Protected Instruments once or twice, because their 401(k) plan (unlike most) has a TIPS fund option. But they don't understand how TIPS work, so they don't have any investments in TIPS.

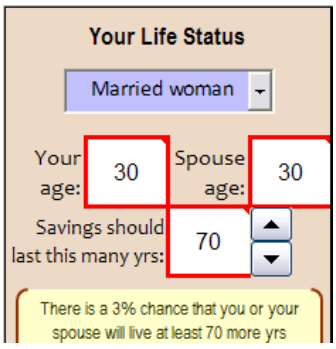
Alexis and Scott have saved up $100,000 in their Roth IRAs and 401(k)s. They are both working, so each can afford to sock away $15,000 into their 401(k)s.

They have decided it is time to develop a financial plan. After all, they don't trust Social Security to be around for them 30-40 years from now. They alone bear the burden of planning for their retirement.

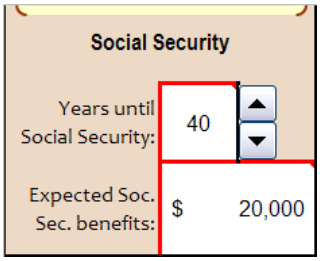
They want to know if it is possible for them to retire by the time they are 55 years old. So they learn about TIP$TER, and decide to give it a spin.

Life Status Inputs

Starting with the "Your Life Status" section, Alexis selects the "Married woman" option and indicates that she and her husband Scott are each 30 years old. By default, TIP$TER suggests that Alexis plan a portfolio to last 70 years. After all, the yellow note toward the bottom of the section indicates that there is a 3% chance that one of them will live long enough to be a centenarian. (If this portfolio duration is too conservative, Alexis is free to change it).



Social Security Inputs



Next, Alexis scrolls down to the "Social Security" section. Because waiting until you are 70 to start getting Social Security benefits reduces one's long-term retirement "shortfall risk," TIP$TER by default suggests that Alexis and Scott assume that they will wait

40 years before they start collecting those benefits. Alexis can change that number, if she wants, but she chooses not to.

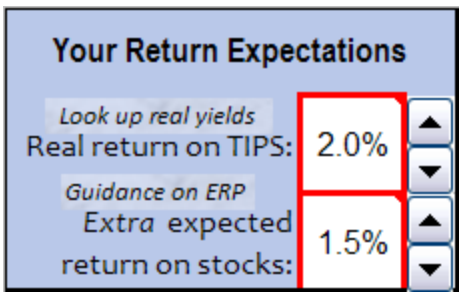
Alexis looks at her and Scott's annual Social Security benefits statements to get an idea of how much Social Security they might get. The notice describes Social Security's underfunded status. So Alexis – assuming those benefits may ultimately be cut – conservatively enters $20,000/year in anticipated Social Security benefits.

Your Savings Goals Inputs

This part is pretty easy. Alexis and Scott have accumulated $100,000 in retirement savings. And this dual-earning couple is adding to those savings at a rate of $30,000 per year.

Your Return Expectations Inputs

Now it starts getting a little bit difficult. In "Your Return Expectations," TIP$TER asks Alexis to enter in the "Real return on TIPS," which is short for Treasury Inflation Protected Securities.

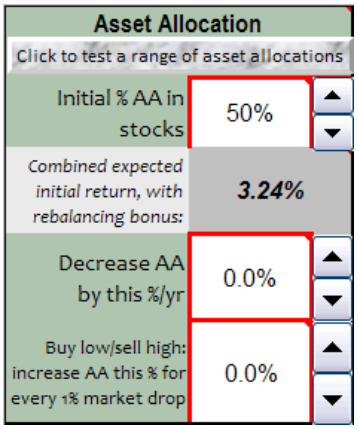


Alexis has to do a little reading to understand what TIPS are about. Fortunately, TIP$TER provides a link to a page on Prospercuity's website that talks about TIPS. She reads up on them, finds out where she can look up the current "real return" on long-term TIPS, and enters in "2%."

Alexis now faces the most difficult input: determining the "Extra expected return on stocks." Fortunately, TIP$TER provides a "guidance on ERP" link to an explanatory page on Prospercuity's website. The explanatory page explains a method for determining a "reasonable" forward-looking equity risk premium. Alexis and Scott are bright, so they are not intimidated by its ***simple elementary grade*** math.

After grasping the basic concepts, Alexis and Scott 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, they estimate that equities will, in the long run, return about 3.5% above inflation. That's a 1.5% difference from the TIPS yield they just looked, so they enter in 1.5% for this input.

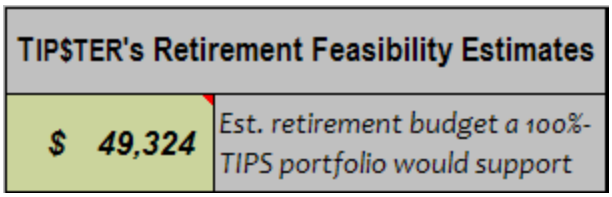
Asset Allocation



Next, Alexis begins looking at TIP$TER's "Asset Allocation" section. For starters, Alexis decides she wants to simulate the outcome of a portfolio with a 50/50 split between TIPS and stocks. So she adjusts the asset allocation spinners to 50%.

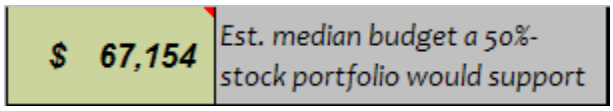
Alexis decides, for now, to leave the advanced "Decrease AA by this %/yr" and "Buy low/sell high" inputs at 0%.

TIP$TER's Retirement Feasibility Estimates

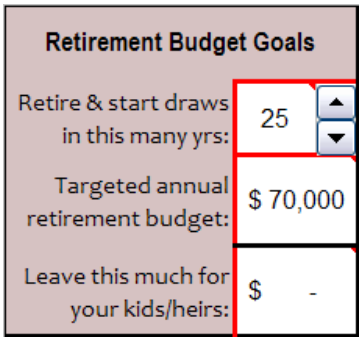


Alexis noticed that as she entered in her anticipated Social Security benefits, her savings goal inputs, and adjusted the "real return on TIPS" inputs, TIP$TER immediately computed the sustainable retirement budget that a risk-free (i.e., 100% TIPS) portfolio would support.

Alexis also notices that as she adjusted her planned asset allocation, TIP$TER immediately estimated the ***median*** retirement budget that her planned asset allocation (a 50/50 split between stocks and TIPS) would support.



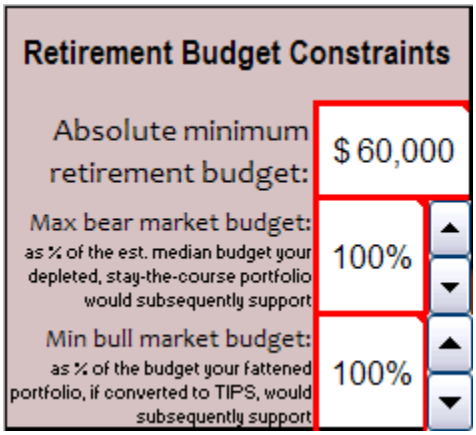
Retirement Budget Goals



Next, Alexis begins working on the "Retirement Budget Goals" section. Alexis indicates that she wants to retire in 25 years. She and Scott have no particular goal to make their heirs or children rich when they die. If that happens, that's fine, but its not a major financial planning goal. So they leave that number at zero.

Also, Alexis – having noticed TIP$TER's Retirement Feasibility Estimates – prudently decides to set a targeted retirement budget goal at $70,000 – within sight of the estimated $67,000 median budget that a 50% AA portfolio would support.

Retirement Budget Constraints

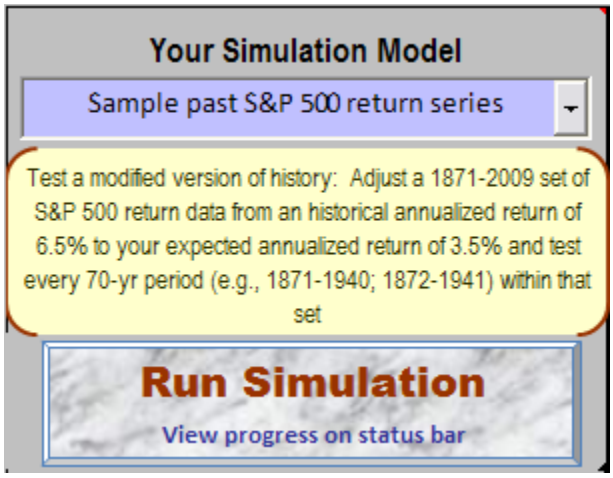


There's one last section to fill out: the Retirement Budget Constraints. Alexis realizes that the more flexible she is, the more she reduces the shortfall probability. So she enters in $60,000 as an "absolute minimum retirement budget."

After reading about these inputs on Prospercuity's website, Alexis agrees that if she and Scott go through a bear market during retirement, they would probably respond defensively. They would try to cap their spending at a level that their portfolio would subsequently support if it subsequently delivered the median expected performance for that portfolio. So she keeps the "Max bear market budget" value set at 100%.

Alexis also agrees that she and Scott would take advantage of good times. If they go through a bull market, Alexis and Scott would probably spend at least as much as their savings – if suddenly exchanged for a risk-free portfolio – would thereafter safely sustain. So she keeps the "Min bull market budget" value set at 100%.

Running the Simulation

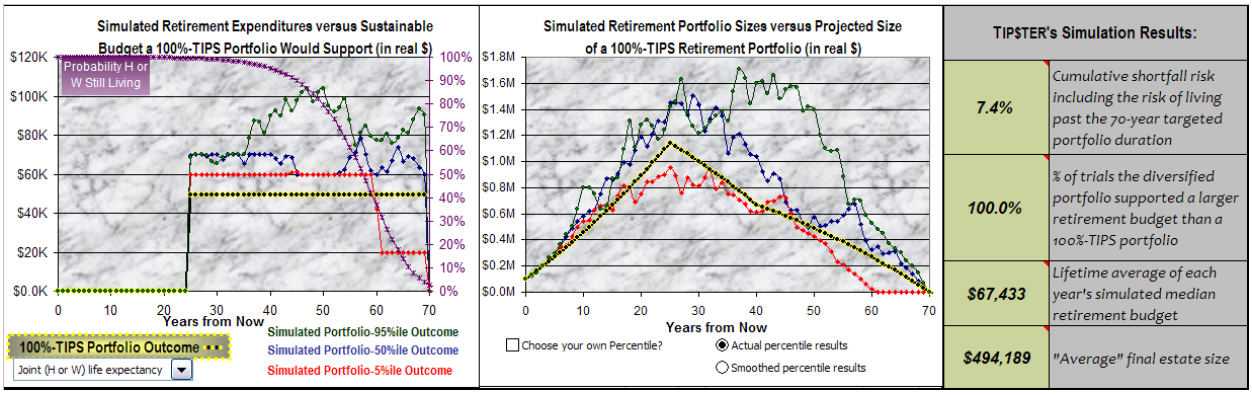


Now Alexis is ready to run the simulation. She likes the idea of using TIP$TER's default exploratory simulation model, so she keeps this option set at "Sample past S&P 500 return series."

And – holding her breath – she clicks on the "Run Simulation" button.

TIP$TER's simulation outputs:

Alexis takes a look at the charts TIP$TER generates:



The summary statistics to the left indicate that this plan would have about a 7% chance of failure (or a 93% chance of success). She also notes that the simulation supported an "expected" median retirement budget of $67,433, which is very close to TIP$TER's original $67,154 estimate for the "median budget" her financial plan would support.

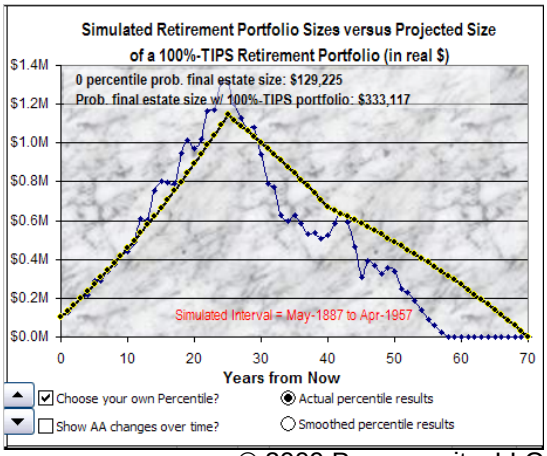
Alexis looks at the left-most graph. The median-ranked simulation trial (in blue) shows the couple's retirement expenditures bouncing within a range of $60,000 (the absolute minimum) and $70,000 (the targeted amount). The 95-percentile-ranked simulation trial (in green) shows the couple's retirement expenditures growing to take advantage of a great bull-market run.

The 5-percentile-ranked simulation trial (in red) shows the couple running out of money – and having nothing but $20K/year in Social Security to live on – after 60 years. But heck, by that time, there's a 50% chance they'll both be dead! And if that happens, Medicaid will probably pay for any subsequent nursing home costs.

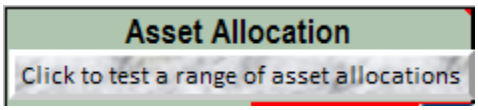
Overall, the 50% asset allocation plan, with its $67,433 expected median level of retirement funding, looks a lot better than the $49K/year a risk-free portfolio would sustain.

Drilling down:

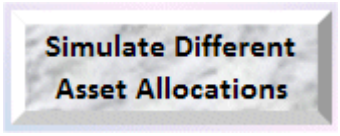
But Alexis is curious – what simulated interval of the S&P 500 data set gave them the worst possible result? She clicks on the "Choose your own Percentile" checkbox, and then dials the accompanying spinners down to the 0 percentile trial result. There, she sees that the worst simulated interval was May 1887 to April 1957.



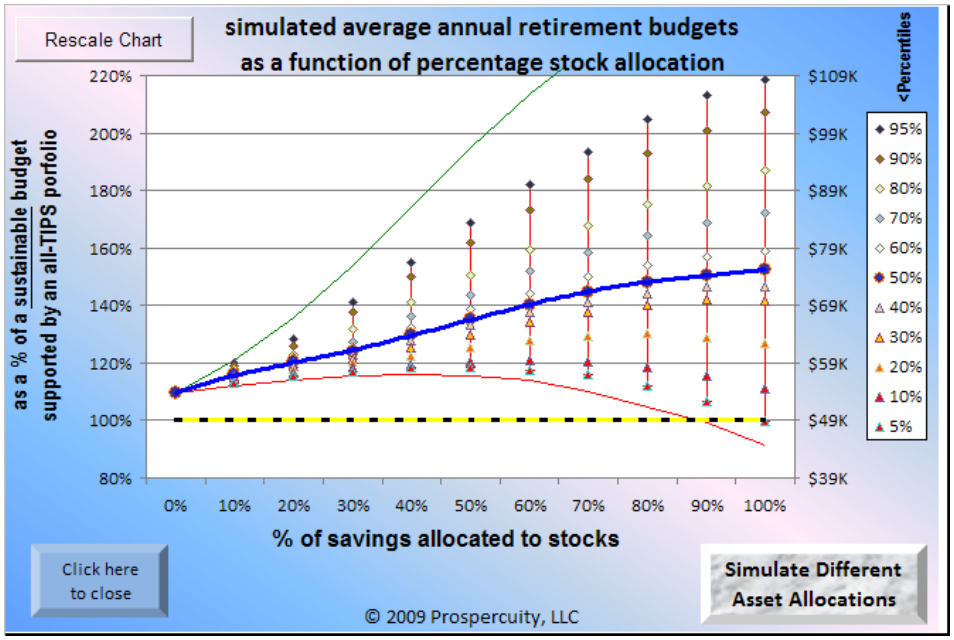
TIP$TER's Asset Allocation Risk/Reward Spectrum Chart™:



Finally, Alexis is curious to see how the distribution of risks and rewards – measured by a *how-would-it-affect-my-retirement-budget* metric – varies with different asset allocations. So she clicks on the "Click to test a range of asset allocations" button in the "Asset Allocation section.

Then, Alexis clicks 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.



Alexis and Scott study the chart. They notice that, with their long time frame, the simulated *risks* of ending up impoverished by an aggressive equity portfolio is very well contained up to a 70% asset allocation. The exploratory simulation of the 70% asset allocation, however, provided a much greater *median* reward (see middle blue line) than the lower asset allocations.

On the basis of these outputs, Alexis and Scott consider boosting their equity asset allocation to 70%.