

# Report on the Potential Risks and Rewards of Your Proposed Financial Plan

## **An Evaluation Of Grandpa & Grandma's Proposed Financial Plan**

Analysis Powered By Prospercuity's Patent-Pending TIP\$TER<sup>®</sup> Simulation Engine

**Prepared by: Allison Tipster, CFP  
A Better Tomorrow, LLP  
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## Important Disclosures

### Description of This Evaluation

This report is based upon a hypothetical simulation of your proposed financial plan and portfolio. The simulation makes several simplifying assumptions: that you would divide your portfolio between a volatile diversified equity portfolio and a stable, risk-free inflation-protected bond portfolio; that you would faithfully annually rebalance your portfolio between those two categories; that you can rebalance your portfolio and reinvest its earnings without realizing any taxes until you begin taking distributions from your portfolio; that any new savings or spending would occur at the beginning of each simulation year; and that you and your spouse (if any) would have average life expectancies.

The simulation also uses one of many optional mathematical models -- selected by you or your advisor -- available to model the growth of your portfolio's equity portion. The simulation centers the distribution of any Monte Carlo simulation, and scales the historical return data set used in any simulation, to yield the annualized expected return and volatility that you or your advisor specify.

## Limitations of This Evaluation

This report should not be construed as a "forecast" of future returns, volatility, or future behavior of stocks or bonds. It provides no guarantees regarding the probability of success of your proposed financial plan. Although the simulation model is inspired by and partly based on historical stock return data, distributions and patterns, the future performance of the stock and bond markets may bear no resemblance to past returns, distributions, or patterns.

Furthermore, the charts and summary statistics generated in this report are highly dependent on, and may be very sensitive to, the inputs and return assumptions that you or your advisor specifies. If the inputs or return assumptions are unrealistic, the outputs will be unrealistic. Please carefully review and verify each and every one of your or your advisor's inputs and return assumptions.

The simulation model you or your advisor selects also makes a difference. Your financial plan may be more successful in some simulation models than others. For more information on the models that were available to generate this report, their mathematical behavior, and their relation to what is known about economics, read the TIP\$TER user manual, currently available at <http://www.prospercuity.com/manual.pdf>.

Do not lose hold of common sense. If something in this report looks too bad or too good to be true, it deserves careful examination. Perhaps it is the result of a misunderstood input. Perhaps your set of inputs is so unusual that the simulation model is unprepared to address them. Prospercuity's TIP\$TER simulation model is revolutionary, but new. There may still be some kinks to work out.

Finally, you should plan to periodically re-evaluate your financial plan and portfolio as your circumstances change or new information comes to light. If your circumstances, inputs, or assumptions change, contact your advisor. It may be time to run a new evaluation.

# Inputs

## Your Life Inputs and Timing-of-Retirement Goals

Your Age	Spouse's Age	Start retirement draws in this many years
70	70	0

## Your Savings and Social Security

- You currently have \$1,000,000 in savings
- You are receiving \$30,000 per year in Social Security benefits

## Additional Anticipated Savings & Retirement Income Sources

Description	Amount	When
<i>None specified</i>	<i>None specified</i>	<i>N/A</i>

## Your Portfolio Goals

- Design a financial plan and portfolio to last at least 30 years.  
*Note: There is a 3% chance of you or your spouse outliving this period.*
- You want to leave at least \$1,000,000 to your heirs

## Your Long-Term Spending Needs

- You have a targeted retirement budget of \$70,000

## Additional Temporary Spending Needs/Wants

Description	Amount	When
<i>None specified</i>	<i>None specified</i>	<i>N/A</i>

## Return Expectations

- You expect the inflation-adjusted bond portion of your portfolio to yield about 2.3% after inflation
- You expect that the total stock market will yield about 4.3% (annualized) after inflation, which is 2.0% more than the yield you expect on inflation-adjusted bonds

### **Your Asset Allocation Policy**

- You are willing to consider a range of asset allocations, but are particularly interested in evaluating an asset allocation of 70% of your portfolio to stocks

## Modeling Assumptions

### *How Stock Returns Were Modeled*

- An analysis of your proposed financial plan was performed using exploratory simulation
- The returns of the portfolio's stocks were tested against different intervals of historical S&P 500 returns scaled to yield an annualized real return of 4.3%

### *How Your Portfolio Was Modeled*

- The simulation modeled your savings as if you divided them, in accordance with your planned asset allocation, between stocks and inflation-adjusted bonds, and faithfully rebalanced your savings once a year
- A constant 2.3% real rate of return on inflation-adjusted bonds was assumed

### *Taxes*

- The simulation assumed that your savings were in tax-advantaged accounts, and that you could annually rebalance your portfolio and reinvest the growth and earnings of your portfolio without realizing any taxable gains or income until you began taking distributions from your portfolio. The simulation does not consider the impact of required minimum distributions.
- **The outputs are given in pre-tax dollars**

# Outputs

## Analysis

### Simulation Summary Statistics for Your Proposed Financial Plan (with a 70% asset allocation)

- **In the simulations, you had a 50% chance of achieving a "life-weighted average"\* retirement budget (pre-tax) of at least \$70,000 per year**

*Compare: This is about 33% more than the estimated average \$52,483 retirement budget that you would experience over a 30-year period if you invested all of your savings in risk-free bonds perpetually yielding 2.3% above inflation (and planned to leave a guaranteed \$1,000,000 to your heirs)*

*Also noteworthy: In 100% of the simulation trials, your proposed financial plan supported, on average, a more generous retirement budget than the essentially risk-free alternative discussed above*

- **In the simulations, you had a 96% chance of meeting your retirement budget constraints and not outliving your portfolio**
- **Each simulation trial generated an estimated final estate size. The average of these trial estimates was \$1,062,260**

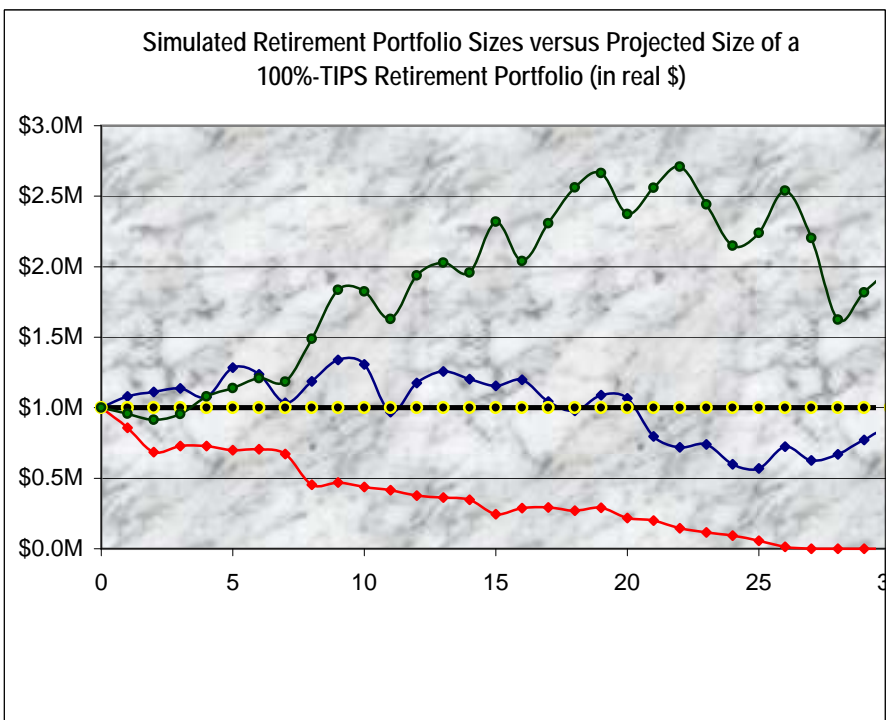
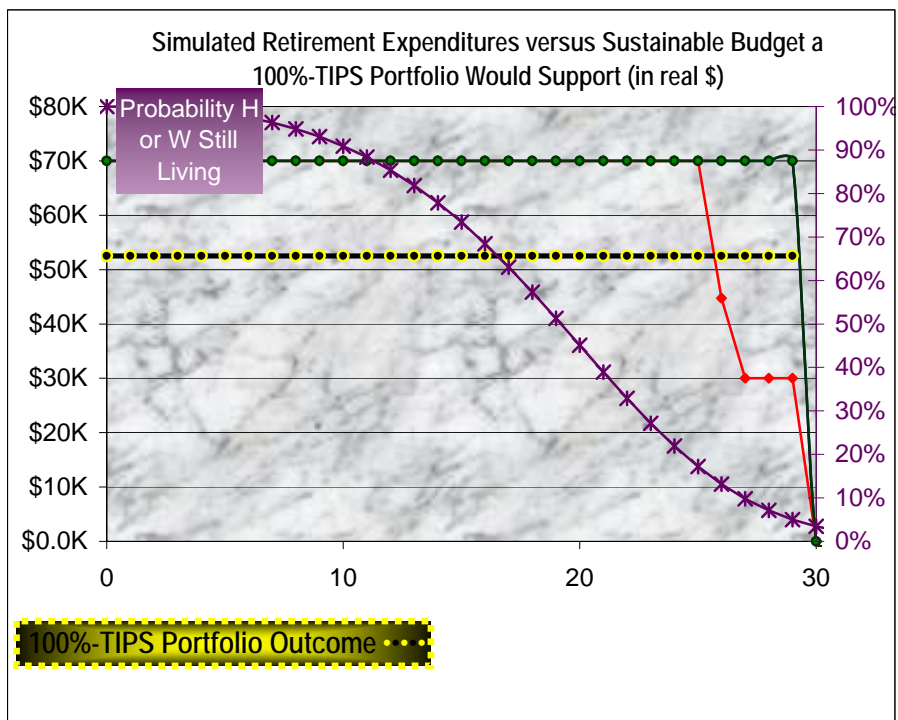
*Compare: By contrast, a plan in which you invested all of your portfolio in inflation-adjusted bonds and spent only an inflation-adjusted \$52,483 per year is estimated to yield, on average, a final estate size of \$1,000,000*

\*This "life-weighted" statistic takes longevity risks into account. The less likely you will survive to enjoy a simulated retirement budget, the less weight the average gives to that simulated value. This value may also differ modestly from the median value shown in the Table two pages down, because the data is ranked differently.

**Charts: different ranked trials from the simulation of your proposed financial plan (at a 70% asset allocation)**

The charts below show the simulated retirement budgets and corresponding portfolio sizes over time for the 5 (red), 50 (blue), and 95 (green) percentile simulation trials.

For comparison, the estimated retirement budget that could be sustained for 30 years by a cautious all-TIPS portfolio is shown in black and yellow.



*Note: The chart to the left also displays (in purple) the probability that you or your spouse will survive over the duration of your portfolio*

**Table: different ranked trials from the simulation of your proposed financial plan (at a 70% asset allocation)**

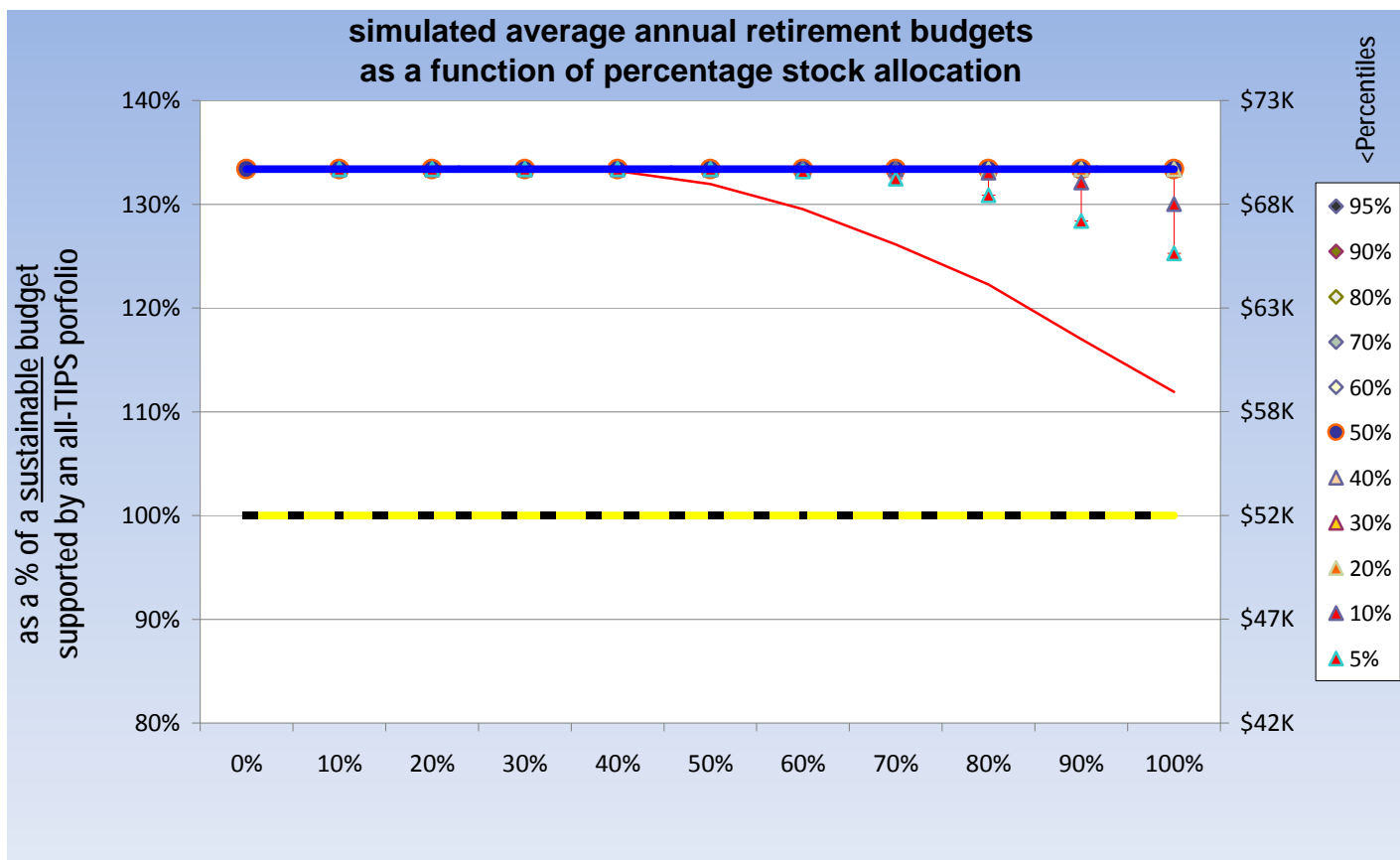
The table below shows the simulated retirement budgets and corresponding portfolio sizes over time for a range of different percentile simulation trials. For comparison, the top line shows the average retirement budget that could be sustained, for 30 straight years (and still leave \$1,000,000 for your heirs), by taking the risk-free approach.

	<i>Average Retirement Budget</i>	<i>Average Final Estate Size</i>
<i>The all-bond portfolio, sustainable withdrawals only</i>	\$ 52,483	\$ 1,000,000
<i>Your financial plan, including a 70% stock portfolio</i>		
<i>Best trial</i>	\$ 70,000	\$ 3,305,498
95%	\$ 70,000	\$ 2,201,861
90%	\$ 70,000	\$ 1,911,074
80%	\$ 70,000	\$ 1,614,559
70%	\$ 70,000	\$ 1,404,726
60%	\$ 70,000	\$ 1,105,072
<i>MEDIAN (50%)</i>	\$ 70,000	\$ 936,922
40%	\$ 70,000	\$ 784,812
30%	\$ 70,000	\$ 668,414
20%	\$ 70,000	\$ 499,019
10%	\$ 70,000	\$ 336,126
5%	\$ 69,525	\$ 222,125
<i>Worst Trial</i>	\$ 66,201	\$ 107,360

## Asset Allocation: The Big Picture

The chart below is intended to give you a sense of the relative risks and rewards of different percentage stock allocations. The blue line represents the median retirement budget supported by the simulation. Above and below the blue line are the retirement budgets supported by different simulation trials, ranked by percentile.

The black & yellow line represents the average "sustainable" retirement budget that a 100%-TIPS portfolio perpetually yielding 2.3% above inflation, together with Social Security and any other retirement income streams you specify, would sustain for 30 years, and still leave \$1,000,000 for your heirs.



**Asset Allocation: How It Impacts Your Probability of Success**

The chart below shows the simulated success rate as a function of asset allocation. "Success" is defined as (1) not outliving your targeted portfolio duration of 30 years and (2) never falling below your absolute minimum retirement budget of \$70,000.

