Back to Budget Basics--A One page Explanation of the Actuarial Approach

The Actuarial Approach recommended in this website for developing a spending budget in retirement is based on the basic actuarial principle that a retiree's assets (current value of investments plus present value of sources of future income) must balance her liabilities (present value of future budgets plus present value of amounts to be left to heirs). This balance equation can be stated as follows:

Current value of investments + PV future income = Current spending budget + PV future budgets + PV Amounts left to Heirs

The retiree should periodically (usually annually) compare her spending plans for the year with the actuarially determined spending budget developed using the balance equation above. This website contains several spreadsheets and recommended assumptions to perform the necessary present value calculations. All of the calculations can be performed using the simple Present Value Calculator. These calculations can be performed for individual budget categories (such as essential non-health related expenses, essential health related expenses, Long-Term Care expenses, non-essential expenses, etc.), or for the retiree's entire spending budget.

The first step in the process is to determine the present value of future income from sources such as Social Security, pensions, annuities, rental income, etc.

The second step is to add this present value to the current value of investments. The sum is the retiree's assets.

The third step is to subtract the present value of amounts desired to be left to heirs from the result of step 2. The result is equal to the retiree's current spending budget plus the PV of future spending budgets. The fourth step is to determine the desired rate of increase for future spending budgets. Once this assumption is determined, the current year's budget can be determined using the present value calculator and solving for the current spending budget (together with assumed future budgets) that will produce the same present value developed in step 3.

Once the current year's actuarial spending budget is determined in step 4, the amount to be withdrawn from current investments for the year can be determined by subtracting income to be received from other sources during the current year from the budget amount determined in step 4. Note that this is a different (and more correct) process than most rule of thumb approaches that simply add a rule of thumb percentage of one's investments to amounts received from other sources during the current year to develop the current year spending budget.

Caution: Even if the retiree's assets and liabilities are balanced as described above, it is possible for the retiree to experience future cash flow problems (either on an expected basis or as a result of adverse future experience)if the present value of future income includes too much deferred income, such as from a QLAC. The retiree or the retiree's financial advisor should consider this possibility when acquiring such a deferred asset. One approach would be to use the "Actuarial Budget Calculator" spreadsheet in this website.

A word on assumptions: As noted above, we make recommendations for three assumptions for the purpose of calculating a spending budget: the discount rate, the future inflation rate and a mortality assumption. We recommend a constant discount rate, a constant future inflation rate and death at age 95, or life expectancy determined using a conservative mortality table if greater. We make these recommended assumptions because we believe (1) they are reasonable and (2) because they make the present value calculations easier to perform. If you want to use different economic assumptions that vary by year or mortality assumptions that assume probabilities by year, that is fine, the basic actuarial balance principle stated above will still apply. However, you just won't be able to use the simple spreadsheets in our website to perform the calculations.

That's it! It is slightly more work than a rule of thumb approach, but it is worthwhile annual exercise to get a better answer.