Executive Summary: The Betterment Retirement Plan

- Our retirement plan gives unbiased, holistic advice to help your clients stay on track and achieve their goals
- You can use the tool to help your clients figure out how much they may spend in retirement (after-tax income) and what blend of accounts they are eligible to use to get there.
- You can use the tool to tell your clients how much they need to save, and even which accounts to save in (Employer plan, Traditional vs. Roth IRA, Taxable)

I. Estimating Retirement Spending

Your clients’ spending during retirement is the most important driver of their retirement plan, but this is often the hardest to comprehend or plan for. The tool focuses on how much your clients will need to spend (or consume) because pre-tax income that is subsequently taxed does not improve their lifestyle.

**Forecasting circumstances at the moment of retirement**

Several factors affect your clients’ expected income in retirement and help estimate spending needs at the time they retire.

**Real growth of salary**

Consumption is strongly related to income, but income changes during their life for multiple reasons, including raises and inflation. The Betterment team has modeled real growth of your clients annual pre-tax income as the first step to estimating consumption at retirement.

Using the current pre-tax income provided by your clients, by default our team estimates your clients have 1% per year *real increase in annual income* (that is, 1% raises in addition to inflation). You can modify this with your clients if you like.

**Cost of living for your clients’ location**

Even though it’s very common for your clients to retire where they lived during their working years, their retirement location may indeed be different. By default, we assume your clients will continue to live where they do now (using the zip code they specified when opening their
account), but if they are expecting to move somewhere less (or more) expensive, they can specify a zip code to help them estimate that new cost of living.

Pre-Retirement Consumption

It can be difficult to predict exact expenses in retirement. Generally we assume your clients want to maintain a similar standard of living in retirement as just before they retired, consuming the same amount (adjusted for locational expenses). Even though they may no longer have a mortgage or be supporting children, these expenses are typically replaced by new activities or hobbies, travel, and medical expenses. While your clients are saving, their finances can be described simplistically as:

\[
Net \text{ Income} = (Gross \text{ Income} - \text{Pre-tax savings}) \times (1 - \text{Average Tax Rate})
\]

\[
Consumption = Net \text{ Income} - \text{Post-tax Savings}
\]

However, we need a consistent way to calculate one’s decision to save or consume a given dollar of income. It’s a general rule (both empirical and theoretical) that at subsistence levels your clients choose to consume a higher proportion (all) of their income, but that as net income rises that proportion falls. Estimates of the wealthy find that they often consume less than half of their net income. That relationship is modeled by our Average Propensity to Consume (APC).

\[
Consumption \text{ Ratio} = APC(Net \text{ Income})
\]

\[
Consumption = Net \text{ Income} \times Consumption \text{ Ratio}
\]

Our goal is deliver the same amount of consumption in retirement as just before retirement. Critically, once your clients are retired, they are no longer saving, so they don't need as much Net Income to support the same level of consumption. Their APC goes to 1.

\[
Net \text{ Income} = (Gross \text{ Income}) \times (1 - \text{Average Retirement Tax Rate})
\]

\[
Consumption = Net \text{ Income} \times 1
\]

As a result, your clients enter a positive circle - they need less Gross Income for the same amount of Consumption because:

1. Your clients’ aren’t saving pre-tax.
2. As they take less Gross Income, their average tax rate falls as well.

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1 Cost of living sourced from U.S. Census data: [https://www.census.gov/compendia/statab/2012/tables/12s0728.pdf](https://www.census.gov/compendia/statab/2012/tables/12s0728.pdf)

Zip code data under license from [http://www.unitedstateszipcodes.org](http://www.unitedstateszipcodes.org)

All U.S. zip codes were mapped to the closest zip code with data available.

Net Income = (Gross Income) * (1 - Average Tax Rate)

This model allows us to model how much Gross Income (pre-tax) your clients need in retirement to actually experience the same living standards as they had pre-retirement.

If your clients would prefer to specify their own spending needs if they have estimated them on their own, they can override our calculation.

II. Determining Total Savings Needed

Once your clients have decided how much they want to spend in retirement, our tool can figure out how much they will need to have saved on their desired retirement date to meet that income level, after taxes.

Time horizon
The length of your clients’ retirement dramatically affects how much total spending they will do, and therefore how much total savings they need. The tool asks your clients for their desired retirement age, and defaults their life expectancy to 90, which determines how many years they will be spending for. You and your clients can adjust both of these values.

The full income picture
Income in retirement can come from multiple sources. Our tool works to understand all sources before determining how large a client’s nest egg needs to be. The main sources for most people are Social Security and investment interest, dividends, or withdrawals. However, some people may have additional sources as well.

Social Security based on retirement age
Social Security is the most widespread source of income in retirement. Social Security benefits vary by both your clients level of lifetime earnings and when they decide to start taking them.

We estimate Social Security according to the federal government’s SSA benefit rules. Inputs are current income (for your clients and their spouses separately) and assumptions for growth rate, inflation, and the age at which your clients (and their spouses) choose to retire. Generally we assume your clients start benefits in the year they retire.

Additionally, we apply the following rules:
- Since your clients can’t take Social Security before age 62, if they choose a retirement date before this we’ll assume they take withdrawals from their portfolio or other sources to meet their income needs until Social Security starts at 62.
- If your clients retire between 62 and 70, we assume they start Social Security benefits at the retirement age they choose.
After 70, Social Security benefits don’t increase, but they are adjusted for inflation. Benefits will be used for your clients’ income starting at their retirement date, even though they would start them at 70.

- If your clients specify a retirement age for their spouses that’s earlier than your clients’ retirement age, we assume your clients simply spend those benefits rather than investing them, so they don’t affect your clients’ plan or portfolio growth.

Social Security benefits are subject to an annual Cost of Living Adjustment (COLA) that varies year-to-year. We assume COLA adjustments are constant in retirement at the assumed level of inflation, which you and your clients can override.

Finally, given the projected deficits in the Social Security trust funds, some customers prefer to plan for retirement assuming partial or zero Social Security benefits. According to the SSA, zero benefits are not likely, but they currently predict that younger workers may only receive $\frac{3}{4}$ of benefits due to the deficit. As a result, we default to $\frac{3}{4}$ of calculated benefits unless you or your clients change this in the assumptions.

**Other Income Sources**

Often retirees have income from other sources such as rental properties, pensions, or annuities. Your clients can include these in their plan. We assume they begin at your clients’ retirement age, are inflation adjusted, and end upon your clients’ specified date of death (or their spouses’, whichever is later).

**Investment Income**

If Social Security and other sources of income are not enough to meet your clients’ spending needs, the gap is filled by their savings and investments. We assume your clients will need to make portfolio withdrawals (including dividends) each year to make up this gap, making adjustments for taxes and planning for the variability of markets. This calculation will be discussed later in this document.

**Ensuring clients will be ok in the worse-case scenario**

Not having enough savings in retirement can be pretty dire, and markets are unpredictable. Betterment employs a very conservative market performance expectation in retirement (lowest 1% of expected returns, or, a 99% chance of success) to estimate how much your clients will need to have saved when they retire.
Accounting for taxes on withdrawals

Accounting for future taxes is complex and impossible to do accurately, since we cannot predict the outcome of your clients’ investment plans, their future personal situation, or tax legislation. However, ignoring taxes completely wouldn’t be accurate either, so we attempt to adjust for them as best as possible.

We estimate your clients’ future tax rate based on their specified in-retirement spending (income), their state of residence, and standard deductions for their marital status. Your clients’ withdrawals will come from a mix of the growth of the accounts they hold as of today (at Betterment or other custodians), and their future investments until their retirement. We handle each part of their savings differently based on what we know.

Current Retirement Balances
Since we know your clients’ current balances and the account types, we project these balances and adjust for taxes using their current and in-retirement tax rates.

- For existing Traditional IRAs and Employer plans, we assume your clients will pay no taxes while saving, and will pay their average in-retirement rate on the full amount of each withdrawal.
- For existing Taxable accounts, taxes are paid in two ways. As your clients save, they pay tax on dividends, so we reduce their projected returns by 1% to account for that payment. When your clients withdraw, we assume they pay tax at the long-term capital gains rate that is associated with their tax rate.
- For existing Roth accounts, we assume no taxes are paid while saving or withdrawing, since your clients have already paid the taxes when contributing.

All projections are done conservatively by assuming a cumulative market return which is roughly a four on a scale from 0 to 10 (where 0 is worst and 10 is best).

Future Retirement Balances
Since we aren’t sure which accounts your clients will save in going forward, we conservatively assume all withdrawals from those savings are taxed at their average in-retirement tax rate. This may overstate your clients’ tax rate (make their tax higher than it is) in certain situations, such as the case of all savings being in a Roth IRA, which is not taxed on withdrawal. Given the choice, we would rather be conservative here.

Using this tax rate, we estimate the total tax your clients will pay on their withdrawals of these balances and add that to the amount they will need to have saved when they retire. This is to make sure your clients have enough saved for all their taxes in retirement, too. We accomplish this with a simple formula:
(Total Balance needed including taxes) = (Total Balance without tax) / (1-Average Tax Rate)

III. Calculating Required Savings

Once we know your clients target balance, we need to decide how much they should save every month or year to reach that total balance. Savings required depends on time until their retirement age, the level of risk they are willing to bear, and how much certainty they need to hit that balance.

The tool will give your client advice about the appropriate risk level, which is based on the time until retirement, but allow you and your client to modify it as you see fit.

Your client can also specify how certain they want to be to hit their goal. The tool starts your client with a 60% probability of hitting their goal. This is more conservative than most calculators that assume an expected average return (which is effectively a 50% chance). Your client can also choose 80% (more certain) or 40% chance (less certain), which will affect how much they need to save.

Shorter-time horizons, less risk, and greater certainty will all lead to higher savings amounts.

IV. Prioritizing retirement account savings

The best account depends on your clients specific tax situation. Betterment is not a tax advisor and does not cover all potential accounts, nor do we have your clients’ tax returns and all details about their situation. This recommendation is a guideline only and should not be considered personal tax advice.

Our “How To Save” retirement account suggestions are based on your clients’ eligibility according to IRS rules, which incorporates their income, their marital status (we assume if they are married they file jointly), their eligibility for employer plans (we determine this by looking at whether your client has specified contributions going into a plan).

Accounts included in the tool’s advice: Traditional IRA (deductible and non-deductible contributions), Roth IRA, Spousal Traditional IRA, Spousal Roth IRA, Employer Plan, Taxable account.

Important notes on how we prioritize our recommendations:

- We recommend that your client first take advantage of employer plan match contributions, if available.
- Then we recommend IRAs that your clients qualify for, followed by employer plans if available, and then taxable accounts.
- It may make more sense for your client to contribute to their employer plan up to the yearly maximum. This decision depends on the availability of investments to provide proper diversification and the fees of these investments and their plan. Average
401(k) fees are 0.60% (based on ICI data), so we prioritize IRA contributions over employer plans (except the match mentioned above). Since Betterment does not have details about your clients specific plan, it’s up to you and your client to determine if their employer plan is a better option than the other accounts recommended.

We use the following assumptions and logic for account type eligibility and recommendations:

- IRS guidelines for the most current tax year (2015 as of this writing) for contribution limits and income phaseouts.
- We estimate your clients current marginal federal income tax rate based on their gross income, marital status, standard deduction, age, and age of spouse. We assume no dependents, no additional deductions, and that they are not blind. We did include state income tax for the state on their account profile, but do not include local tax.
- We estimate your clients in-retirement tax rate based on the current data. If their federal marginal rate is 20% or lower, we assume it will be higher in retirement. If it is higher than 20% but not higher than 30%, we assume it will be the same in retirement. If it is higher than 30%, we assume it will be lower in retirement.
- If your clients tax rate is assumed to be the same in retirement as it is now, we recommend splitting their IRAs between traditional and Roth for flexibility in retirement.
- Roth conversions may result in taxes, even if your clients contributions this year were not deductible; this is due to other traditional IRAs they may have.

GENERAL ASSUMPTIONS

Graph / Projections assumptions

- The projection graph shows pretax investment growth, in real dollars (adjusted by the rate of inflation of 3% or what you override.)
- We use an annual management fee of 0.25% (platform fee) + your firm or custom spread.
- All current and recommended investments from current day forward assume Betterment expected returns according to our recommended allocation advice until retirement and in retirement. Our allocation advice glides more conservatively over time. Read more.
- In-retirement withdrawals follow our safe withdrawal advice, and assume a cost of living adjustment in line with inflation.
- Spending starts at the retirement age chosen. Spouse retirement age is only used for Social Security calculations.
- We do not specifically calculate or handle Required Minimize Distributions (RMD) in this retirement planning advice. We assume that your clients portfolio withdrawals meet their RMD requirements, if they have traditional IRAs. If your clients have funded Traditional IRAs with Betterment and are age 70.5 or older, we do calculate their RMD on an annual basis and provide this in their tax form.
Other Income Source assumptions

- Other income sources are assumed to be after tax.
- The income value specified is assumed to start at retirement age and continue until your clients life expectancy.
- We assume entered value is in nominal terms, and is inflation adjusted.

Social Security (“SS”) calculation assumptions

- Full retirement age as defined by the SSA rules and your clients date of birth
- Salary growth is assumed as your clients specify, with a default of 1%. Note that the normal SSA.gov calculator does not assume any salary growth.
- Cost Of Living Adjustments (COLA) are assumed to be equal to our assumed rate of inflation (3% by default).
- SS benefits start at retirement age, unless that age is less than 62, in which case we assume benefits start at age 62, and income prior to that is met by portfolio withdrawals or other income sources (if specified). If retirement age is over age 70, SS benefits will start at the retirement age, and any benefits claimed start at 70 are assumed to be spent or saved, but do not affect your clients plan. Benefit calculations after age 70 still assume an inflation adjustment, per the SSA rules.
- SS continues until life expectancy for each person. No survivor or disability benefits are assumed.
- SS benefits are not specifically taxed in our calculations. Tax rate is assumed based on your clients desired income in retirement. This may overstate how much tax is paid on SS benefits depending on their income level.