



Retirement Income — Annuitization

The RetirementWorks® Retirement Income Annuitization calculator analyzes how much of a retiree's savings should be converted to a monthly annuity stream. It uses a needs-based approach, which examines this question in terms of the anticipated needs of the household both for cash on hand and for life-long income.

Since RetirementWorks® already offers a model for analyzing income needs in retirement (the Retirement Income – Amount module), the Annuitization model builds on that. To use the Annuitization module, therefore, you must first fill out the Retirement Income Amount input screen, then add a small additional volume of information on the Retirement Income Annuitization screen.

The present document describes both portions of the input process, but does not describe in detail the rationale behind the Retirement Income Amount illustration, which is contained in another document.

The input can be made extremely simple and approximate, or it can be more detailed and accurate:

- input can be for one retiree or two in the same household;
- analysis can be done reflecting data shortly before retirement, or during retirement; if there are two retirees in the analysis, different retirement dates can be assumed for each;
- eight categories of income are provided, to help itemize sources and estimate how they might change after retirement;
- savings and investment data can be entered in total or in detail, as you prefer;
- household expenses can be entered in total or by category; if they are entered by category, different expense levels can be indicated for late retirement years (eighties and nineties), when most people's medical expenses are higher, but other household expenses tend to be distinctly lower;
- most inputs and calculations use constant dollars, which (except arguably in terms of rates of return) are easier to understand; there is no need to guess what future inflation rates will be!
- specific annuity rates can be entered if they are known, or if they are not, the report will show results for a wide range of possible rates.



The underlying concepts behind the analysis are (1) that some amount of cash usually needs to be set aside first, whether for specific anticipated needs or for the psychological comfort of the retiree, with only the remainder being available for possible annuitization, and (2) that annuitization should not make the retiree(s) clearly worse off even if a death occurs very soon.

These concepts are intended to alleviate the main concerns that the vast majority of retirees seem to have concerning annuities: that they will lose control over their funds, and that they will die too soon and therefore “lose the gamble” they are making with the annuity company. By the same token, the financial analysis that occurs during the calculations brings to light the two main advantages of annuitization: the ability to provide income no matter how long people live and, based on that benefit, the ability to provide a higher income from a given amount of principal than an individual or household could safely extract on its own (not knowing how long it needs to last).

When to Use This Calculator

The Retirement Income Amount calculator is intended to be used shortly before retirement, while planning for that event, or any time thereafter.

It may be used with either qualified or non-qualified funds. However, if you are using it in connection with a qualified retirement plan that offers a variety of retirement options, the analysis that RetirementWorks® performs may not conform to the structure of certain joint annuity options.

In qualified plans, most joint options assume that the retiree receives the initial benefit amount for as long as s/he lives, and that if there is a reduction, the reduction occurs only if the retiree dies first, not if the spouse dies first. RetirementWorks® assumes a more equitable arrangement, typical of individually purchased annuities, where a reduction occurs regardless of which annuitant dies first. If the plan is priced with actuarial fairness, this arrangement would permit a higher initial benefit to be paid, so it is arguably better for both parties. It may be necessary, however, to roll the funds out of the qualified plan and purchase an annuity privately in order to fairly reflect the assumptions that RetirementWorks® is using. Of course, whether this is actually a good idea or not depends on the specific provisions of the qualified plan, and of the personal annuity being considered.

How to Use This Calculator

The Retirement Income Annuitization calculator can be very simple to use. At the simplest, you can simply enter name and date of birth, current sources of income (including investment balance), and total current household expenses on the Retirement Income Amount screen, then



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go to the Retirement Income Annuitization screen and, after reviewing just a few basic additional questions, run the calculation.

You have the option of adding some complexity and sophistication to the calculation, however, and you should consider doing so based on the circumstances you are dealing with:

1. **Is there more than one adult in the household?** If so, then you would generally want to use the input fields associated with a 2nd retiree. If all the breadwinners are already retired, you could skip this step, but it is better not to: money needs to last longer, in general, when it is supporting two people rather than one. Note that the second retiree does not have to be a spouse, however.
2. **Should you collect and input investment detail?** This is really not necessary, although if you are going to follow up with other analyses (such as Retirement Income Sources analysis, or estate planning – not yet available in RetirementWorks®), it might well make sense to collect the detail and input it up front. In addition, collecting the detail makes it less likely that any assets get overlooked.
3. **Should you collect and input expense detail?** Yes, if you want to have more control over the system's assumptions about expenses. Unless you specify otherwise, the system will assume that overall expenses in real dollars (i.e., after adjusting for inflation) will drop by about 1% a year during retirement until about age 80, at which point they will level off. Your inputs on the Expense Detail screen can modify the amount by which early and late retirement expenses differ. By working through this screen (or the worksheet) category by category with the client, you can help come up with numbers that are more suited to the actual situation.
4. **Do you have specific annuity rates to input?** If you do, check the box at the bottom of the Annuitization screen, then click the Detail button to enter any applicable rates you want to have evaluated. The report will then show a graphical result for each. If you do not have specific rates to input, the report will instead show tabular results for a wide array of possible rates.



Detailed Input Instructions – Retirement Income Amount screen

Name

Enter the client’s name as it should appear on the printed report.

Date of Birth

Date of birth must be entered in *m/d/yyyy* format. **The client’s date of birth is always required.**



Client Timing (When does retirement occur?)

In the middle of the upper part of the Retirement Income Amount screen, you can indicate whether the client is Already retired, or is Soon to be retired.

- **Already.** This choice simplifies input, because it assumes that all income and expenses already reflect the post-retirement situation. The second column of client Income inputs will be disabled.
- **Soon.** This choice opens up the second column of client Income inputs. In the first column (labeled "Now"), enter the current monthly income amounts, including pre-retirement salary or wages. In the second column (labeled "Soon"), indicate the expected post-retirement income amounts, including pensions and Social Security, if applicable. The retirement analysis will be done based on the second column only, but seeing the Before and After picture side by side can help facilitate discussion of changes that are likely to occur.

2nd Retiree

The right portion of the Retirement Income Amount screen is available for information about a spouse or other household member who may be retired already or retiring later. For the second retiree, there are three options about the timing:

- **Already.** If the second person is already retired, the right-most column of Income inputs will be disabled.
- **Soon.** This choice opens up the right-hand column of Second Retiree Income inputs. In the first column (labeled "Now") indicate the current monthly income amounts, including pre-retirement salary or wages. In the second column (labeled "Soon"), indicate the expected post-retirement income amounts, including pensions and Social Security, if applicable. The analysis will be done based on the second column only, but seeing the Before and After picture side by side can help facilitate discussion of changes that are likely to occur.
- **Over 1 year away.** If the second person will not be retiring within the next year, select this option. In the first column (labeled "Now") indicate the current monthly income amounts, including pre-retirement salary or wages. In the second column (labeled "Later"), indicate the expected post-retirement income amounts, including pensions and Social Security, if applicable. If you choose both this option and the More Sophisticated



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calculation method, you can indicate your best estimate of the Second Retiree's retirement year on the Analysis Detail pop-up screen. Otherwise, the Second Retiree will be assumed to retire in about five years. So if the second retiree is not likely to retire until much later than that, you should probably plan to use the More Sophisticated rather than the Simplified calculation method.

Monthly Income Sources

Household income is entered on the Retirement Income Amount screen. Depending on your choices regarding Client Timing and a Second Retiree, you will have from one to four columns in which to input the income items.

Income is divided into eight categories. Except for investment income, which is described in more detail elsewhere, the income categories don't actually matter a great deal. For calculation purposes, they are currently handled alike. But we itemize them to help make sure that all income sources are captured, and so that if not everyone in the household has retired yet, you may more easily consider which income sources will be different after retirement. (Note that the income categories we use are similar to those that appear on the Federal 1040 tax form, enabling you to use recent tax returns as a data source.)

All income items are to be entered on a monthly basis. If any items fluctuate over time, enter the average monthly amount. Count cash receipts only (not, for example, unrealized capital gains on investments, real estate, or business ownership, or uncollected accumulation in IRAs, annuities, or pension plans).

Investment Income

Investment income is different from other kinds of income, because it is a key focus of the analysis. Income from investments and savings is entered in the second row of the Income fields on the Retirement Income Amount screen. There are several points to keep in mind about Investment Income:

- **Count CASH income only.** This screen is trying to determine what your monthly income is, so we are interested only in income that you actually receive. For the most part, this means interest and dividends only. Do not include unrealized capital gains, or accumulated growth in IRAs, annuities, or pension plans, except to the extent that you receive payments from such plans in cash.



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- **Enter MONTHLY amounts.** For consistency with the other inputs, make sure you enter investment income as a monthly (not an annual) amount. If you want help making the translation, you can right-click on the input field you are using, and pop up the built-in calculator.
- **Detailed analysis is available.** If you click the Detailed Analysis check box, then click on the Detail button that subsequently appears, you will be taken to the Invested Assets detail screen. Here, you can enter investment information by type of asset, or even asset by asset. This level of detail is not really required for the Retirement Income Amount calculation, but it is useful for other calculations, and you may find it a convenience to enter the detail here and have it available later for other purposes. Entering the detail also helps assure that no assets get overlooked. The detail screen is shown in the following section.
- **Enter the Investment Balance.** We need to know the total of investments and savings that are available for eventual liquidation. If you use the Detailed Analysis, this field will be filled in automatically. But otherwise, you need to do it manually. **Include all assets that are or will become available to supplement income, even if they do not generate income currently (such as land, gold, or collectibles).** If there is a second retiree, include his or her assets as well.



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Invested Assets Detail (optional)

Invested Assets				
Asset Class or Item	Current Asset Balance	CASH Annual Return %	TOTAL Annual Return %	Owned by 2nd Retiree?
+ IRA, 401(k), 403(b), 457 & other plan balances	\$	%	%	<input type="checkbox"/> % Surr. fee
+ Bank accounts, cert's of deposit, money mkt. funds	\$	%	%	<input type="checkbox"/>
+ Taxable mutual funds	\$	%	%	<input type="checkbox"/> % Cap.gain
+ Individual common and preferred stocks	\$	%	%	<input type="checkbox"/> % Cap.gain
+ Individual taxable bonds	\$	%	%	<input type="checkbox"/> % Cap.gain
+ Non-taxable bonds or bond funds	\$	%	%	<input type="checkbox"/> % State tax
+ Cash value life insurance	\$	%	%	<input type="checkbox"/>
+ Annuity account balances (excl. qualified plans)	\$	%	%	<input type="checkbox"/> % Surr. fee
+ Other income-producing assets, taxable at sale	\$	%	%	<input type="checkbox"/> % Cap.gain
+ Other income-producing assets, non-taxable at sale	\$	%	%	<input type="checkbox"/>
+ Other non-income-producing assets	\$	%	%	<input type="checkbox"/>

Close Click "+" to add a detail item in any category, "-" to delete one. Shaded inputs are optional.

This screen appears when you click the Detail button after selecting Investment Detail on the Retirement Income Amount screen. This screen enables you to itemize assets, and/or to enter them by category, with details about each item.

This level of detail is not needed to perform the Retirement Income Amount calculations. However, these details can later be used for other kinds of analysis, and you may consider it desirable to collect the information and enter it all at this point. Being this thorough makes it less likely that some assets will be overlooked.

Eleven fixed categories of investment are provided. **Any amounts entered in the last category ("Other non-income-producing assets") will not be considered to be available for use in the Retirement Income Amount analysis and will not be included in the invested assets total on the Retirement Income Amount screen.** You may change the names of the fixed categories, if you want, but not the nature of how each category is treated, so make any such changes with caution.



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You can add space to enter specific assets in one or more categories by clicking the "+" sign next to the appropriate category. You will get one new blank row each time you click "+". If you later wish to delete a detail row, click the minus sign next to that row. You cannot delete the fixed category rows, only the detail rows. If you use detail rows, the inputs for the affected categories are disabled; but subtotals and overall rates of return will be calculated automatically and displayed for these categories, based on the detailed information provided underneath them.

For the Retirement Income Annuitization analysis, you need to enter the first three columns: the current asset balance (normally, this should be net of any associated liability such as a mortgage or other loan), the average annual cash rate of return, and the average annual total rate of return (including any capital gains, realized or not). **Enter actual rates of return, not inflation-adjusted rates.** If there is a Second Retiree, it is also preferable to indicate which person owns the asset, using the check box at the far right. Other details concerning surrender fees or capital gain percentages are not needed for this analysis (although again, if known, they may be entered now for use in other reports).

When you have entered all the data and clicked the Close button, you will return to the Retirement Income Analysis screen, and the current balance and cash investment income fields on that screen will be filled for you. If the client (or Second Retiree, if any) is not yet retired, you may adjust the post-retirement income amount(s) if you wish to, but changes to the current numbers need to be made by going back to the detail screen (or by first turning off the detail option).

Calculation Method options

This field can usually be disregarded, as it will have no effect on the Annuitization calculation. You should use it only if you intend to perform a Retirement Income Amount calculation, in which case, you should consult the documentation for that calculation.

If you elect the "More Sophisticated" option here, you will be able to go to the Analysis Detail screen to input additional information related to mortality risks. However, these same items appear on the Annuitization screen, so there is no need to enter them here, and the detail screen is not documented here. **Exception: If you want to enter a future retirement date for a 2nd Retiree, then the only place to do that is the Analysis Detail Pop-up screen; so in that case, select "More Sophisticated," and click the Detail button to get there.**



Monthly Household Expenses

Near the bottom of the Retirement Income Amount screen, you can select whether you want to enter only the total monthly household expenses, or whether you want to enter details:

- **Total only.** This choice is the quick and easy method. It requires you to enter only the current total monthly household expenses plus, if there is a currently unretired person in the household, the percentage of current expenses expected to remain in place after retirement. The system will automatically make additional adjustments, as appropriate, reflecting the fact that most people's expenses (in real dollar terms) go down somewhat during their retirement as they age and become more infirm. It will also assume extra expenses at death.
- **Detailed analysis.** This choice makes visible the Expense Detail button which, when clicked, takes you to the Monthly Household Expenses screen, where you can input expenses by category and by time period. The system will then apply this information to its future assumptions about expenses, adding in extra expenses at death (and also reducing expenses, if the More Sophisticated calculation method is used, after the first death). Although the Detail option provides more information than is actually required to do the calculation, it can facilitate discussion and analysis of what expenses currently exist and how they might change over time.



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Monthly Household Expense Detail (optional)

Monthly Household Expenses					
Enter all amounts in CURRENT dollars (that is, without taking future inflation into account)		Earlier Retirement Years		Later Retirement Years	
<i>MONTHLY Expense Items</i>	Now	Pct. of Current	Amount	Pct. of Current	Amount
Housing: Mortgage / Rent / Insurance	\$	100%	\$	50%	\$
Utilities	\$	100%	\$	75%	\$
Real Estate Taxes	\$	100%	\$	50%	\$
Food: Groceries	\$	90%	\$	90%	\$
Dining out	\$	100%	\$	50%	\$
Clothing:	\$	75%	\$	25%	\$
Medical / Dental / Eye care (all costs) :	\$	150%	\$	300%	\$
Transportation:	\$	100%	\$	50%	\$
Travel / Recreation / Hobbies :	\$	150%	\$	50%	\$
Income Taxes (Federal, State, Local) :	\$	75%	\$	50%	\$
Loan/Credit Payments, and Savings	\$	0%	\$	0%	\$
Life Insurance :	\$	100%	\$	20%	\$
Work-related Expenses:	\$	0%	\$	0%	\$
Charitable Contributions / Gifts :	\$	100%	\$	50%	\$
Alimony or other Family Support :	\$	100%	\$	50%	\$
Miscellaneous Cash Expenses :	\$	100%	\$	75%	\$
<input type="button" value="Close"/> <input type="button" value="Save Percents"/>	Total \$	0%	\$	0%	\$

This screen appears when you click the Expense Detail button after selecting Expense Detail on the Retirement Income Amount screen. This screen enables you to itemize monthly expenses, both by type of expense and (if applicable) by timeframe.

Sixteen fixed expense categories appear on the screen. These categories cannot be changed or elaborated upon. For more detail on what each category is expected to cover, hover the mouse over the blue label on the left-hand side of the screen, and an explanatory message will appear.

In the end, it does not matter a great deal which categories are used. **What is important is that all expenses be accounted for, and that all expenses be entered on an average monthly basis.**

What about current savings? There is a category for savings (along with loan/debt payments), but include only savings that need to continue to be made into retirement (e.g., money that is being set aside for some specific expenditure such as grandchildren's college educations, or to take care of dependents). **Money that is currently being saved for retirement or for**



general investment purposes should not be counted as a household expense!

In most instances (i.e., except where the client is already age 80 or over), you can also indicate the percentage by which expenses are expected to adjust, from pre-retirement to post-retirement, or from early retirement to late retirement, or both, as applicable to the situation. Sample percentages are provided for you, but you can change these if you wish. If you want to make your revised percentages the default for future cases, just click the "Save Percents" button at the bottom of the screen.

When you are done, click the Close button, and you will return to the Retirement Income Amount screen, with the current total expenses already filled in.

Detailed Input Instructions – Retirement Income Amount screen

Retirement Income - Annuitization

Name: Date of birth (mm/dd/yyyy):

Inputs for Retirement Income Amount analysis are also needed for Retirement Income Annuitization analysis. You may click this button to review those items. **Retirement Income Amount Inputs**

Annuitization Inputs

Client: Male Female Non-Smoker Smoker Unknown %

2nd Retiree: Male Female Non-Smoker Smoker Unknown %

Date of birth (mm/dd/yyyy):

Amount that could be annuitized: \$

From this, amount reserved for heirs: \$ (assume 50% chance of survival = age 85)

Amount reserved for medical needs: \$

Type of annuity payment: Fixed Variable or inflation-adjusted

Annuity rates are available

Calculate **Close**

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Name

Enter the client's name as it should appear on the printed report.

Date of Birth

Date of birth must be entered in *m/d/yyyy* format. **The client's date of birth is always required.**

Mortality Risk information (sex, smoking status, health, date of birth)

The fields on this part of the screen are mostly self-explanatory: sex and smoking status for the client (and for a Second Retiree, if applicable). Smoking status should be considered to be the general past practice. If someone has just recently quit after a long period of smoking, you should still enter him or her as a smoker.

If there is a Second Retiree, we also ask for his/her date of birth (in *m/d/yyyy* format).

In addition, there is information requested about health impairments. The mortality percentages to the right of the smoking status indicate how much more likely to die a medically impaired person is, compared to normal. A normally healthy person has a 100% mortality rating. Someone twice as likely to die in the next year has 200% mortality, someone three times as likely has 300% mortality, and so on. (For people in the insurance business, these last two would be Table D and Table H respectively.) If you don't do this for a living — and even if you do — it's hard to estimate a mortality percentage. In order to help you, some common conditions and approximate percentages are provided in the on-line Help for this input screen.

Amount That Could Be Annuitized

Enter here the amount of household assets that is being considered for annuitization.

This amount will default to the total invested assets shown on the Retirement Income Amount screen. It is perfectly legitimate, however, to reduce this to a smaller amount, since many retirees want to retain control over some of their financial assets (for any number of reasons). If the client anticipates needing funds at time of death, these do not have to be deducted here. If you enter them into the following two fields (for legacies to heirs or for medical expenses at time of death), the system will compute life expectancy and discount the projected needs back to the present, then will automatically exclude the discounted amount from the Amount That Could Be Annuitized.



So you can use the Amount That Could Be Annuitized field to exclude any amounts that the client wants to retain control of for immediate or other actual or possible lifetime needs; then use the other two fields for expenses that will occur near or after death.

Amount Reserved for Heirs and Amount Reserved for Medical Expenses

These items are for any amounts that the client wants to be certain will be available (if at all possible) at the time of death, or at least anticipates needing. The intention is that this is money for heirs or for medical expenses, but it could be for any other purpose related to death.

The system will compute life expectancy and discount the projected needs back to the present, then will automatically exclude the discounted amounts from the recommended annuitization amount. Mathematically, the two fields are handled the same, except when there is a second retiree. In those cases, the Amount Reserved for Heirs is *split evenly* between the first death and the second death when the system is testing different mortality scenarios; but the Amount Reserved for Medical Expenses is assumed to be per person, and will be applied in full at *each* death.

Since both amounts, after discounting for present value, get deducted from the total Amount That Could Be Annuitized, these amounts should not be previously removed when determining the Amount That Could Be Annuitized!

Type of Annuity

Indicate whether the annuity under consideration is a fixed level payment annuity or not ("not" means that it is a variable annuity, or a fixed annuity with an increasing or floating payment, including equity-indexed annuities). The assumption is that a fixed rate annuity will tend to lose value in real dollar terms over time, while other kinds of annuities will do a reasonable job of maintaining their value in real dollar terms.

Annuity Rates input

Indicate at the bottom of the screen whether you intend to input the actual rate(s) applicable to the kind of annuity(ies) under consideration. If this box is checked On, a button appears to the left, labeled "Annuity Rate Detail."

Clicking the Annuity Rate Detail button will pop up a screen where you can input annuity rates for the client, and, if there is a second retiree, for the second retiree and/or for joint annuities. Four kinds of individual annuities can be shown: a life annuity, a 5-year C&C (i.e., Certain and Continuous, meaning a minimum of five years of payments are guaranteed, even if the



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annuitant dies sooner), a 10 C&C, and/or a 20 C&C. Four kinds of joint annuities can be shown: one with 100% of benefits continued to the survivor, one with 75% paid to the survivor, one with two-thirds paid to the survivor, and/or one with 50% paid to the survivor. You may enter rates for one or more kinds of annuity, in any combination. Results will not be shown for any types that are zero or blank, though.

Annuity Rates - Enter one or more

Client annuity:	Straight life annuity:	\$	<input type="text"/>	per mo. / per \$1000
	5-year certain and continuous:	\$	<input type="text"/>	per mo. / per \$1000
	10-year certain and continuous:	\$	<input type="text"/>	per mo. / per \$1000
	20-year certain and continuous:	\$	<input type="text"/>	per mo. / per \$1000
2nd Retiree annuity:	Straight life annuity:	\$	<input type="text"/>	per mo. / per \$1000
	5-year certain and continuous:	\$	<input type="text"/>	per mo. / per \$1000
	10-year certain and continuous:	\$	<input type="text"/>	per mo. / per \$1000
	20-year certain and continuous:	\$	<input type="text"/>	per mo. / per \$1000
Joint annuity:	Joint with 100% to survivor	\$	<input type="text"/>	per mo. / per \$1000
	Joint with 75% to survivor:	\$	<input type="text"/>	per mo. / per \$1000
	Joint with two-thirds to survivor:	\$	<input type="text"/>	per mo. / per \$1000
	Joint with 50% to survivor:	\$	<input type="text"/>	per mo. / per \$1000
Percentage of gross contribution applied to loads and premium taxes:			<input type="text"/>	%

If rates are input, a graphical display will be shown. If rates are not input, you will instead see a table showing a wide range of possible (not necessarily actual) rates for different annuity types, and the annuitization amount that would be suggested at each rate.

All rates are monthly income rates per \$1000 of principal (where principal is net of loads and premium taxes).

At the bottom of the pop-up screen is a place to enter the percentage of the annuitization amount that will be taken off the top, either for sales loads or for premiums taxes or both, before the rates are applied. Values are in percentages, not basis points (e.g., enter "2.5" to indicate 2-1/2 percent).

As explained in "When To Use This Calculator" section, the joint annuity options with reductions after the first death may not match the options being offered within a qualified retirement plan; a rollover and purchase of a privately owned annuity may be needed to match the options shown here.