	A	B	C	D	E	F	G	H	I	J
1	Navigation:									
2	***Elementary glide-path calculator (SimpleCalc)***				***Results worksheet (R. Results)***			***Next IPT worksheet (Assumptions)***		
3										
4	**Income Planning Tool (IPT)**									
5	**Calculate a financial Glide-Path from yearly Cash-flows, Income Streams, Expenses, Investment Accounts and Taxes**									
6										
7	**This Excel spreadsheet is designed for people who want to plan for future income, saving, and spending needs. It calculates rough**									
8	**estimates of saving and spending patterns over time. You must enter *summaries* of a range of your personal financial data as**									
9	**required by the model. These include applicable investments (taxable and retirement), pension, Social Security, work, annuity,**									
10	**and expenses. The final results are shown in summary tables and glide-path graphs for those tables. All data are entered and**									
11	**calculations are done only in this spreadsheet. No data are exported or saved from the spreadsheet (either locally or to the**									
12	**Internet). Once the data are entered, the spreadsheet estimates yearly cash-flows using income from various sources: work,**									
13	**pensions, Social Security, annuities, and life insurance benefits; contributions and withdrawals from tax-deferred 401(k), 403(b),**									
14	**457(b), IRAs, Roths, and savings investment accounts. The spreadsheet estimates yearly investment returns, taxes on investment**									
15	**returns, and expenses. It estimates yearly Federal tax rates and resulting cash-flows are estimated. The spreadsheet allows**									
16	**for scheduled and irregular (upcoming additional) contributions and withdrawals for investment accounts (IRA, Roth, Savings)**									
17	**as well as for scheduled and irregular expenses and deductions. From this data, the spreadsheet then calculates yearly net worth.**									
18	**Glide-path tables and graphs are created are useful for investigating different planning scenarios by making changes to inputs.**									
19										
20	**The IPT software may be run in a variety of spreadsheet programs including Windows Excel, the free OpenOffice or LibreOffice**									
21	**"calc", Google "sheet". The spreadsheet doesn't use Microsoft Visual Basic as VBA is not available in all spreadsheet**									
22	**programs. Apple's "numbers" spreadsheet program has some incompatibilities, so use either Excel for Mac or one of the free**									
23	**spreadsheet programs.**									
24										
25	**Why model? Although models by nature are imprecise, calculating a rough estimate of your income stream may be useful for**									
26	**financial planning. The spreadsheet represents a compromise between complexity and completeness and leans in the direction**									
27	**of a simpler model. As statistician George Box noted, "All models are wrong, but some are useful." To illustrate the concept of**									
28	**glide-path modeling, a very crude glide-path calculator, "SimpleCalc", is available (both as a worksheet in the IPT spreadsheet and**									
29	**as a separate spreadsheet). This may be useful for you to experiment with to better understand the concept of glide-path before**									
30	**using the full IPT spreadsheet, which uses a more complete financial planning model. These spreadsheets are educational tools.**									
31										
32	Last revision:	10/2/2016	V.0.25.02	***Beta***						

	A	B	C	D	E	F	G	H	I	J
33	See	**Appendix D**		for the list of outstanding issues (things TODO), and full REVISION-LIST						
34										
35	Note: The spreadsheet will be revised each year after new Tax Tables & Cap-Gains/Div. rates & tax rules are announced.									
36										
37	© P. Lemkin 2012-2016									
38	GNU General Public License, version 3.0 (GPLv3) at				http://opensource.org/licenses/gpl-3.0.html					
39	See the full license description sections 15. Disclaimer of Warranty and 16. Limitation of Liability for details.									
40										
41	** For more on *Beta-level* software see			https://en.wikipedia.org/wiki/Software_release_life_cycle						
42										
43	**"Forever Beta"**									
44	*Version 0.123.6 No wait - one more thing. Done!*									
45	*Version 0.123.7 No, still not quite right. Done!*									
46	*Version 0.123.8 Well, still not quite there yet. Done!*									
47	*Version 0.123.9 Added a new feature competing software has. Done!*									
48	*Version 0.123.10 Oops, didn't implement feature correctly. Done!*									
49	. . .									
50										
51										
52										
53	***Cartoon by TarTar, 10-15-2015***									
54										
55										
56	**Table of Contents for Introduction**									
57	**Introduction**									
58	1. Description of the IPT Spreadsheet									
59	1.1 Examples of some of the questions that may be investigated using this spreadsheet									
60	1.2 Types of personal data required									
61	1.3 How the spreadsheet works									
62	1.4 Brief list of the worksheets									
63	1.5 How the yearly income stream cash-flow and net worth are calculated									
64	2. The two versions of the IPT spreadsheets you may download: "Demo" or "User"									
65	2.1 Disclaimer									

	A	B	C	D	E	F	G	H	I	J
66	3. Detailed directions for using the spreadsheet									
67	4. A detailed list of all worksheet tables and sections is in Appendix A									
68	5. Notes on the current version of the spreadsheet - what it does and does not handle									
69										
70	**Documentation in additional worksheets**									
71	Click on the any of the following hyperlinks to go to the worksheets									
72	**Assumptions**	Summary list of all settings in **Setup,** and **AgeData** through **ExpenseData** worksheets								
73	**Results**	Glide-path of income from Income & Withdrawal sources less Expenses & Taxes								
74	**Resources**	Lists of articles, literature, web sites related to financial planning								
75	**Appendix A**	List of all worksheets, describing their tables and sections								
76	**Appendix B**	Extra calculators (not tied in with the rest of the spreadsheet)								
77	**Appendix C**	Glossary - definitions of terms used in the spreadsheet								
78	**Appendix D**	List of outstanding issues (Things TODO and CHECK), and REVISION-LIST History								
79	**FAQ**	Answers to Frequently Asked Questions								
80										
81										
82	**Introduction**									
83										
84	**The Concept**									
85	While saving for future expenditures such as retirement, a new house, or a college education for your children you									
86	might wonder if you are saving enough or spending too much on current expenses. If you are near or in retirement,									
87	the spreadsheet lets you estimate, using a static model, your income stream and whether it will cover your expenses.									
88	It does not use a dynamic model such as those using Monte-Carlo or repeated random sequences of returns methods.									
89	A glide-path analysis lets you look at your finances over time. How do they change with the contributions to savings									
90	during your accumulation phase? How rapidly are your savings being depleted during retirement? How does it change									
91	with changes in your expenses? What happens if you retire early or later than expected? It may be useful to periodically									
92	check how you are doing to make sure you're still on track to reach your goals and, if not, what might be changed									
93	to improve your retirement glide path. This **Introduction** worksheet gives an overview and a **FAQ** worksheet									
94	provides answers to some Frequently Asked Questions.									
95										
96	This **Income Planning Tool (IPT)** spreadsheet lets you enter detailed personal data to help answer those									
97	questions more accurately - both for near term pre- and post-retirement. There are many rudimentary retirement									

calculators available on-line (see **RS. Resources** section **RS.8** for a list). To illustrate the flavor of these types of glide-path calculations, we provide an additional very simple one in the worksheet SimpleCalc

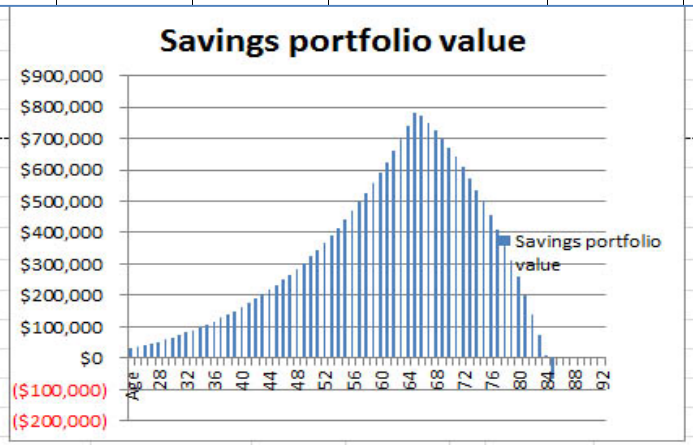
Note, the SimpleCalc worksheet is used just to introduce the concept of glide-path and is not part of the rest of the IPT spreadsheet. The following screenshot shows some typical data and results. In this example, the person ran out of savings at age 86. Their lifestyle with no change in saving, retirement age or expenses in retirement was not sustainable after age 86.

1. Enter your data in the Red cells below.

Your current age (same as retired if *already* retired):	25
Your expected retirement age:	67
Current value of savings portfolio:	$30,000
Current gross annual income (GAI):	$25,000
Annual contributons to savings portfolio:	$3,750
Yearly annuity from Social Security at retirement	$6,000

2. Additional parameters you can adjust or use THE defaults)

Pre-retirement annual rate of return on portfolio:	4.50%
Post-retirement annual rate of return on portfolio:	2.50%
Expected annual income Cost Of Living Adjustment:	2.00%
Increase of annual retirement withdrawals::	3.00%
Increase in annual contributions to savings portfolio:	2.00%
Percent of GAI needed in retirement when retire:	80%



You run out of savings at age	86
The value of your savings at retirement	$770,241
Percent of income saved while working	15.0%
Number of years you can fund in retirement	19
Percent of expenses from Soc. Sec. at retirement	13.3%

Values for savings and expenses over time

Year	Age	Savings portfolio value	Savings contribution	Gross Annual Income	Cola adjusted Social Security if any	Retired Annual Expenses	Percent expenses from Soc. Sec. In retirement
1	25	$30,000	$3,750	$25,000	$0	$0	0.0%
2	26	$35,269	$3,825	$25,500	$0	$0	0.0%
3	27	$40,853	$3,902	$26,010	$0	$0	0.0%

The complete IPT spreadsheet described below provides a much more accurate and detailed analysis because it takes into account many other financial factors over time. Play with the SimpleCalc "toy" glide-path calculator first. If this looks

interesting, then you might try using this IPT spreadsheet. It is described in more detail below. Of course it can't predict the future but it may provide a better understanding of your financial situation, which may be useful in doing financial planning.

1. Description of the IPT Spreadsheet

This spreadsheet software computes a rough estimate of yearly income and expense flows as various income sources and expenses come and go over time. Results are calculated at the end of each year. It uses a yearly "cash flow" calculation defined as the sum of income and withdrawals, and subtraction of expenses, contributions and estimated taxes. Any funds left over each year in the cash account are saved back into the investment taxable savings account for the next year. Similarly, in years with a cash shortfalls, funds are taken from the savings account the next year. The spreadsheet is an Excel workbook consisting of a number of worksheets containing personal data that you enter. In Excel, the spreadsheet as a whole is called a workbook which in turn is a collection of worksheets.

Navigating the spreadsheet

In Excel, you switch between worksheets by clicking on a named worksheet tab at the bottom of the Excel window or by clicking on worksheet hyperlinks (blue font with an underline) available throughout the spreadsheet. You may advance to the next or previous worksheet by clicking on the **Next or Results or Previous** links at the top or bottom of each worksheet.

(Prev worksheet) ***Results worksheet (R. Results)*** ***(Next worksheet).***

The three hypertext links also appear after the following notice on each data entry worksheet.

- - - > DO NOT CHANGE ANY VALUES in the following tables in this worksheet. < - - -

Alternatively, at the bottom of each worksheet there is a **Worksheet Navigation** table at the end of each worksheet. It contains a hypertext list of all of sequential worksheet names.

Setting up the spreadsheet

Use the **S. Setup** worksheet to specify which other worksheets you will need to fill out.The IPT works with one person S1 or two people called S1 and S2. S1 and S2 may be married or unmarried. However the latter should use the tax filing status Separate Filing.

The **R. Results** worksheet summarizes data computed on the other data worksheets both as tables and as graphs of the data in the tables. The results are updated when data is changed in any of the other data entry worksheets.

Depending on your level of expertise and familiarity with financial terms, you may want to review unfamiliar terms in the **Appendix C** worksheet (glossary of 'financial terms used in the IPT spreadsheet) before entering your data. The spreadsheet

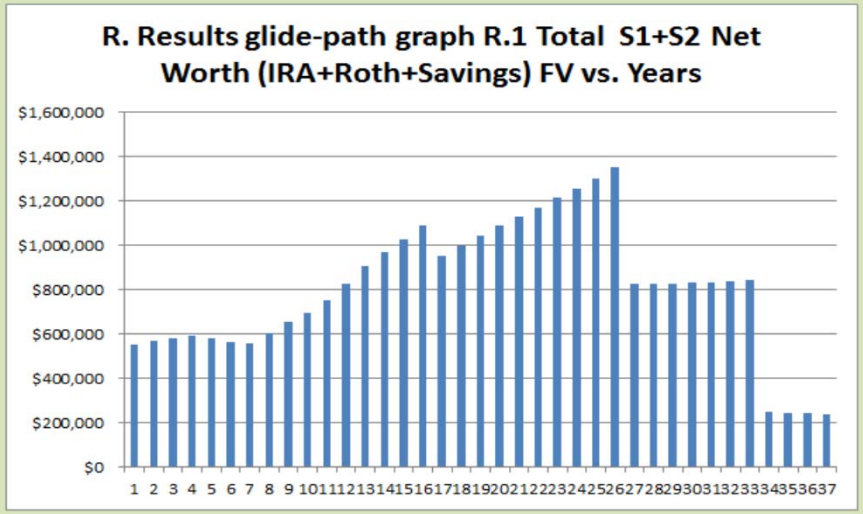
requires switch between the different worksheets that focus on *particular* types of data (e.g., work income, Social Security benefits, taxable savings, IRAs, Roths, etc.).

Viewing the Results at any time in the analysis

The total summary net worth glide-path results graph is computed in the **R. Results** worksheet. However it is also viewable in each editable data entry worksheet so users can immediately see the new results of any data entry changes they make. It is located after the end of data entry notice as a graph with light green background.

- - - > DO NOT CHANGE ANY VALUES in the following tables in this worksheet. < - - -

R. Results glide-path graph R.1 Total S1+S2 Net Worth (IRA+Roth+Savings) FV vs. Years



Some of the types of personal data that may be required

One or more income sources may be defined and include: work income, pensions, Social Security, and annuity payouts. There are three types of investment accounts including: tax-deferred deductible IRA, Roth IRA, and savings (taxable investments), bank bank accounts, and CDs). For purposes of the spreadsheet, 401(k), 403(b), 457(b), Traditional-IRA, Rollover IRAs are considered to to be tax-deferred IRAs. Similarly a Roth-401(k) is considered a Roth IRA. This is because after you retire, most retirement accounts may be rolled over to "Rollover-IRA" and Rollover-Roth" accounts. You may make both scheduled and irregular contributions and/or withdrawals to each of the spreadsheet investment accounts. An irregular event is an upcoming one-time event occurring

in a particular year (specified by age). You may specify expenses and tax-deductions as both scheduled and irregular events. You might think about your list of future irregular expenses as a planning tool for your future expenses in your "Bucket List" - such as college expenses, retirement, trips, gifts, etc. (See the discussion of the 2007 comedy film **The Bucket List** for a nice definition.) http://en.wikipedia.org/wiki/Bucket_list . The spreadsheet calculates your remaining assets yearly so you may use this for helping plan for funding future expenses.

Income sources are: work income, pensions, Social Security, and annuity benefits. Investment accounts include tax-deferred IRAs, Roth IRAs, as well as savings investment accounts. Contributions, and withdrawals may be specified from investment accounts. Taxes are then estimated on the total taxable income. All data worksheets require you to specify the age when the incomes, contributions and withdrawals or expenses start as well as when they end (if applicable).

If the cash-flow is ever negative for a particular year,the spreadsheet takes the shortfall from the taxable savings account (**9. SavingsData**) for the next year. If the savings ever runb out, this is a problem. It will warn you with an error warning in the **R. Results** section **R.8**. One could possibly increase some of the income sources (more work, IRA or ROTH withdrawals) and/or lower expenses to make the cash-flow positive if it were severely negative.

1.1 Examples of some of the questions that may be investigated using this spreadsheet

Here are some examples of questions that might be answered using the IPT. The details on the questions are described in the appendix FAQ number 13.

- Q.1 Will I run out of money during retirement?
- Q.2 Will the money being saved for college expenses (or a new home or cars, etc.) be adequate?
- Q.3 When should I take withdrawals on my tax-deferred IRAs?
- Q.4 When should I retire, claim Social Security, and how will this affect my savings?
- Q.5 How will irregular expenses affect my future income stream through retirement?
- Q.6 How much more income could I earn long term if I have a more aggressive stock portfolio (more stocks)?
- Q.7 What is the effect of different levels of inflation on my savings over time?
- Q.8 What would the effect be of adding annuities during retirement? What if I started them at different times?

1.2 Types of personal data required

Specify the starting and ending ages for each income stream (work, pension, Social Security, and/or annuities), and do this independently for each spouse S1 and S2. Specify the expected average market returns for stock, bonds and cash

(fixed income) in your investment portfolio. Historically, approximately 90% of your portfolio return is determined by your asset allocation (roughly the stock:bond ratio). In addition, specify (the same or different) Cost Of Living Adjustments or COLAs for each of these income streams that increase the income and expenses by that percentage each year. Also specify the expected Consumer Price Index (CPI) that may be used as a default for the various COLAs you need to enter.

Types of Savings

Similarly, specify the age ranges for scheduled investment (IRA, Roth, taxable savings) contributions and withdrawals for S1 and S2. The IRA and Roth accounts are optional, but the savings account is required since it is used to reconcile the cash-flow and where insurance payouts (if any) are deposited. You may optionally specifyeither or both scheduled contributions as a fixed amount and withdrawals as a percentage each year that increase by a COLA if desired. You may also specify optional irregular contributions and withdrawal events that may occur at any age or have several events the same year independently for both S1 and S2. For example, one could withdraw money to buy a new car, pay for kids college, take a big trip and buy a new house at the same year. You specify the age (e.g., 59) rather than the year (e.g., 2019) for the events. It computes the sum of the scheduled and irregular contributions and withdrawals respectively each year. These are tracked separately for S1 and S2.

Types of Expenses

Expenses are specified similar to contributions and withdrawals for investment accounts, but as scheduled and irregular *expense* events. Whereas yearly investment account withdrawals are added to the cash-flow, expenses are subtracted from the cash-flow. Specify scheduled and optional irregular deductions that are used for part of the tax calculations. Otherwise, the starting and stopping ages with an expense COLA are specified. A rough estimate of Federal and State taxes that are computed are subtracted from the cash account. Note that State taxes are estimated by a fixed percentage, not as an AGI-dependent, marginal tax rate. Different states may also have various deduction levels associated with different types of pensions, etc. which are not taken into account.

It may be used by either a single person (S1) or a couple (S1 and S2)

If there is no individual S2, then just enter zeros for all income, contributions, withdrawals, and expenses for S2 entries. S1 and S2 may be married or unmarried. Married S1 and S2 individuals may use tax filing status of Married Filing Jointly (MFJ) or Married Filing Separately (MFS). Single individuals may also use Head of Household (HH). However the unmarried S1 and S2 should only use the Tax filing status Single Filing (SF).

Limitations on the types of static types of calculations done in the spreadsheet

The computations use fixed estimates you specify for various parameters including the CPI, COLAs, stock and income returns

whereas in reality these all change year to year, introducing major changes in the actual results. It does not address the problem of sequence of investment returns that may radically affect long-term returns. The reality is that all future rates of returns, CPIs, COLAs, tax rates, tax rules and schedules, deduction schedules, etc., are unknown. However, we know they will vary and both of these factors may greatly affect future results. Better methods such as Monte-Carlo or randomized sequences of actual past returns may improve the model, but still cannot guarantee returns. These methods are beyond the scope of this spreadsheet. Black Swan events (See Talib 2010) do happen - think 9/11 and the 2007-2009 Great Recession. These results are really ball-park estimates, but still may be useful for planning.

1.3 How the spreadsheet works

Each worksheet has **INSTRUCTIONS** that explain what is needed to be filled out in that worksheet. As data is entered, remember to save the Excel workbook (spreadsheet) after or during your editing of the various worksheets. Entered data will not be saved unless you tell Excel (or whatever spreadsheet program you are using) to save it. As you make changes, saving the spreadsheet often is a good idea to help prevent loss of your data. See section **3. Detailed directions for using the spreadsheet** below for a more detailed description for using the spreadsheet.

First, enter your personal configuration of the spreadsheet using the "S. Setup: worksheet"

First specify which data worksheets apply to you and that you want to use. Go to the **S. Setup** worksheet to specify the accounts that apply to your personal situation in section **S.1** and either select "used" or "ignored" for each of the worksheet options. Specify whether to include irregular contributions and withdrawals in the investment and expense accounts in section **S.2**. Finally, specify whether to add scheduled contributions and withdrawals for the investment accounts in table **S.3**.

Then enter your Age(s) and Tax data

After editing the **S. Setup** worksheet, you should edit the **1. AgeData** worksheet, and enter basic tax filing data in the **2. TaxData** worksheet.

Then enter your data into the relevant "3. WorkData" through "10. ExpensesData" worksheets

Visit each of the other data-entry worksheets that apply to you and enter your data. Ignore the other ones that may have zero values for the data. Some worksheets allow the entry of multiple sets of data as a table we call a "*Table-GUI*" - for example multiple jobs. (See the glossary in **Appendix C** for more details).

Finally, view the final results in the "R. Results" worksheet after all your data is entered

After all data is entered, view the results, which are summarized in the **R. Results** worksheet. The R. Results worksheet presents

	A	B	C	D	E	F	G	H	I	J
296	intermediate results computed in the rest of the worksheets in a more readable format presenting a global picture of the									
297	glide-paths for the different accounts and computed results on a year-by-year basis.									
298										
299										
300	**1.4 Brief list of the worksheets**									
301	The worksheets and their Excel tabs are color coded by function. We list the main purpose of the following worksheets.									
302	See each worksheet for more details.									
303										
304	**Introduction** worksheet is white.				*overview documentation of the IPT*					
305										
306	**SimpleCalc** worksheet:		**SimpleCalc**		*elementary glide-path calculator*					
307										
308	View a summary of data entered at any point for **S. Setup,** and **1. AgeData** through **10. ExpenseData** worksheets.									
309	Assumptions worksheet		**Assumptions**		*summary list of all settings by user in the other worksheets*					
310	The **Assumptions** worksheet is not edited since it summarizes data enter from other worksheets.									
311										
312	Results worksheet:		**R. Results**		*summarizes spreadsheet glide-path results **after** entering your data*					
313	The **R. Results** worksheet is not edited since it summarizes computed results from the other worksheets.									
314										
315	Configuration worksheets:		**S. Setup**		*used to configure entire spreadsheet (indicate which sheets are used)*					
316			**1. AgeData**		*enter age, CPI, market returns, insurance used throughout spreadsheet*					
317			**2. TaxData**		*enter Federal tax data and filing status*					
318										
319	The income worksheets specify one or more sources of yearly income,									
320	Income worksheets:		**3. WorkData**		*enter current or future work income data, if any*					
321			**4. Pension Data**		*enter current or future pension income data, if any*					
322			**5. SocSecData**		*enter current or future Social Security income data, if any*					
323			**6. AnnuityData**		*enter current or future annuity income data, if any*					
324										
325	The investment accounts may be a source of income by taking withdrawals. Contributions to these accounts are an expense.									
326	Investment worksheets:		**7. IRAdata**		*enter tax-deferred IRA accounts data, if any (current or future)*					
327			**8. RothData**		*enter Roth IRA accounts data, if any (current or future)*					
328			**9. SavingsData**		*enter taxable savings accounts data, if any (current or future)*					

	A	B	C	D	E	F	G	H	I	J
329										
330	The worksheet where you enter your yearly expenses.									
331	Expense worksheet:		**10. ExpensesData**		*enter expenses data (current or future)*					
332										
333	The worksheet where the yearly cash-flow is computed (Income + Withdrawals - Contributions - Expenses - Taxes).									
334	The **CashData** worksheet is not edited.									
335	Cash-flow worksheet:		**11. CashData**		*summarizes the cash flow from the other worksheets*					
336										
337	The RMD tables are used with deductable-IRAs and 401(k)-Roth withdrawals is in the **RMDtable** worksheet.									
338	The **RMDtable** worksheet is not edited unless the IRS updates its RMD data.									
339	RMD tables worksheet:		12. RMDtable		*contains the IRS Required Minimum Distribution data*					
340										
341	The remainder of the worksheet contain additional documentation.									
342	**Resources** worksheet:		**RS. Resources**		*outside resources including books, articles and web sites*					
343										
344	Appendix A worksheet:		**Appendix A**		*list of all worksheets tables and sections*					
345	Appendix B worksheet:		**Appendix B**		*additional special calculators*					
346	Appendix C worksheet:		**Appendix C**		*glossary of terms used in the IPT*					
347	Appendix D worksheet:		**Appendix D**		*things TODO and Revision-List history*					
348	FAQ worksheet:		**FAQ**		*Frequently Asked Questions*					
349										
350	For each of the applicable data worksheets accounts, enter income, contributions and/or withdrawals or expense data									
351	(i.e., ages, amounts, rates of return (ROR), COLAs, etc.). There is a detailed list of all these worksheets tables and sections in									
352	**Appendix A.**									
353										
354	**All worksheets in the spreadsheet are protected except for the red cells where you enter your data**									
355	Because entering data in non-red cells might corrupt the spreadsheet, we protect all worksheets except for red cells where									
356	data is entered. Any worksheet may be unprotected by going into the Excel Format option and clicking									
357	on *Unprotect worksheet* . For more details on protecting/unprotecting worksheets, see **RS. Resources RS.9 Excel resources.**									
358										
359										
360	**1.5 How the yearly income stream cash-flow and net worth are calculated**									
361	Both scheduled and irregular withdrawals taken from the tax-deferred IRA, Roth IRA, and savings accounts are added to the									

cash-flow in the **11. CashData** worksheet. Both scheduled and irregular Expenses (**10. ExpensesData** worksheet) and Federal and State taxes (**2. TaxData** worksheet) are taken from the cash account. The following equations give a top-level explaination of the computations. For each year y,

Cash(y) = Income(y) + Withdrawals(y) - SavingsContributions(y) - Expenses(y) - Taxes(y) + Insurance Payout(y)

Withdrawals(y) = SavingsWithdrawals(y) + IRAwithdrawals(y) + ROTHwithdrawals(y)

Then, the cash balance is added (subtracted if negative) to the savings account for the next year, taking contributions and withdrawals into account

Savings(y+1) = [Savings(y) + SavingsContribution(y) - SavingsWithdrawal(y)] * (1+SAVINGSreturn) + Cash(y)

IRA(y+1) = [IRA(y) + IRAcontribution(y) - IRAwithdrawal(y)] * (1+IRAreturn)

ROTH(y+1) = [ROTH(y) + ROTHcontribution(y) - ROTHwithdrawal(y)] * (1+ROTHreturn)

If large future irregular expenses planned, to minimize taxes you may want to withdraw some of the money over several years from the tax-deferred IRA and/or taxable savings with high unrealized capital gains. Doing this over several years prior to the expense may possibly avoid going into a much higher marginal tax bracket. Then when these additional withdrawals are added to the Cash-flow and thenput back into savings. Then the future expenses will be covered and the Cash-flow will not show a negative amount. There is an option in the **11. CashData** worksheet to rebalance spouse S1 and S2 by rebalancing cash between them for a year in which one of them has a negative balance. This is enabled in the **Setup S.2** worksheet. If the cash flow for either S1 or S2 is negative, it then subtracts the negative amount from the positive one so the one with extra cash may help out the other who has a negative balance.

How excess or insufficient cash is handled at the end of each year

Each year, all income and investment withdrawals are "added" into the cash-flow table in **11. CashData** worksheet. Expenses and taxes are "removed" or subtracted from the **11. CashData** worksheet. The resulting excess (or shortfall) is calculated and added or (removed) from the taxable savings in 9. SavingsData. Here is an example to help clarify the difference between scheduled and unscheduled events. For example, you might schedule yearly withdrawals from the savings account on either a specific schedule (e.g., 1%/year) or on an irregular basis such as a particular withdrawal for a new car as a specific dollar amount (e.g., $22,000).

How life insurance payouts are handled

If there is a life insurance payout for S1 and/or S2 for policies described in **1. AgeData** section **1.4**, the payout is added to the income

	A	B	C	D	E	F	G	H	I	J
395	in **9. SavingsData** table **9.4.2.1** tax-free to the savings according to the payee (S1, S2 or Other).									
396										
397										
398	**2. The two versions of the IPT spreadsheets you may download: "Demo" or "User"**									
399	The spreadsheet is distributed in two different versions depending on whether it has demonstration (demo) data or not.									
400	The demonstration **(Demo)** version has all data-entry worksheets data set up for demonstration purposes to give									
401	typical examples of reasonable values. However, to make it easier to enter your data, a **User** version is provided with all									
402	data entry fields set to blank (or $0 or 0%) as appropriate.									
403										
404	The spreadsheet files are distributed with the name, version number, and revision data as part of the file									
405	The file names for both versions of the "Income Planning Tool" are prefixed with "**IPT-**".									
406	For example, the version number is indicated as:				**V.0.19.2**					
407	This is followed by the release date indicated by:				**11-8-2015a**					
408										
409		**a)** full demo data		**IPT-Demo-V.0.19.2-11-8-2015a.xlsx**						
410		b) no demo data		**IPT-User-V.0.19.2-11-8-2015a.xlsx**						
411										
412	**a)** The **Demo** version is the spreadsheet with full demonstration data. It is useful for viewing examples of date you might enter									
413	in all worksheets. In most people's situations, you might only use a few of these types of income sources for your data.									
414	**b)** The **User** version of the spreadsheet has no demonstration data and is ready for you to enter your own data. All data									
415	entries are set to either $0 or 0.0% in all data-entry worksheets. All worksheets are unselected in worksheet **S. Setup**.									
416										
417	**To enter data either override the demonstration (Demo) data version or use the empty User version**									
418	Direct the spreadsheet to not use any particular data worksheet by selecting "**ignored**" in the **S. Setup** worksheet section **S.1**.									
419	It is used to declare the data worksheets that *you do want* by specifying them as "**used**". (Alternatively,the spreadsheet will									
420	ignore data from worksheets by setting the income, contribution or withdrawal amounts etc. data to **$0** to remove them from									
421	the calculations). The investment returns for the investment account (IRA, Roth, and savings accounts) from the									
422	previous year are added to the current year for each of the respective accounts (whether the balance is + or -).									
423	**S. Setup** section **S.2** enables/disables the use of Irregular contributions and withdrawals by selecting									
424	**"yes"** or **"no"**. **S. Setup** worksheet **S.3** enables/disables the use of scheduled contributions and withdrawals by									
425	selecting **"yes"** or **"no"**.									
426										
427	**2.1 Disclaimer**									

This software models an income stream from several different income sources, investment withdrawals, expenses, taxes and cash-flows over time. No claim is made to the accuracy, suitability, and correctness of the algorithms. Also, note that the further out one goes over time, the less accurate any estimates will be. Since the software uses static models and static rates of return, CPI, etc. that are entered, it will not track actual market values over time. The software uses only Excel formulas and *does not use Visual Basic (VBA)* , so may can easily review all computations as desired. Because it uses generic spreadsheet coding (with no VBA), it will run in a variety of spreadsheet programs such as Windows Excel, free OpenOffice or LibreOffice "calc", free Google "sheet", etc.. Use this software at your own discretion and risk as an initial way to think about personal finance problems. This is educational software. Absolutely no warranty is offered for this software and no responsibility is taken for any errors in. or use of the software.

3. Detailed directions for using the spreadsheet

This section elaborates on the discussion in the above. "**1.3 How the spreadsheet works**" section. The spreadsheet as distributed with the Demo version has demonstration data entered in **red** cells through the worksheet. Enter data by overwriting the demonstration data, or use the User version to enter your data instead (see section **2.** above). You might *SaveAs* your spreadsheet with a new file name as you make changes. The demonstration data provides examples of answers to give an idea of typical values. Note that negative numbers are shown as red ($1,234) rather than -$1,234, and should not be edited.

The first worksheets you should use to enter your data

First configure the spreadsheet to your personal situation in worksheet **S. Setup** sections **S.1** to **S.3.** By ignoring any worksheets you specified in **S. Setup** section S.1, the spreadsheet will ignore that data. First, enter data in the **1. AgeData** and the **2. TaxData** worksheets since these are used by the all the other data worksheets. In table **S. Setup S.1** declares the set of data worksheets that are applicable to you, where you select either "**use**" or "**ignore**". In **S. Setup** section **S.2** configure the worksheets to use or not use irregular contributions and withdrawals for investment accounts and the expenses accounts. In **S.3** you configure the spreadsheet to use scheduled contributions and withdrawals for the investment accounts. Most of the **S.2** and **S.3 queries** require a "**yes**" or "**no**" answer with one question using having a "**keep**" or "**remove**" query.

Then, enter data in other worksheets

After setting the initial configuration in the **S. Setup, 1. AgeData** and **2. TaxData** worksheets, enter the rest of your data in the data worksheets **3. WorkData** through **10. ExpensesData** that you have selected in the **S. Setup** worksheet (see section **1.4** above for a list of data entry worksheets). Again, only enter data in the red cells on the worksheets.

3. WorkData, 4. PensionData, 5. SocSecData, 6. AnnuityData, 7. IRAdata, 8. RothData, 9. SavingsData, 10. ExpensesData

	A	B	C	D	E	F	G	H	I	J
462										
463	If a particular data worksheet does not apply to one of the spouses S1 or S2, or there is no spouse S2, then just enter **$0** for any									
464	income, contribution, withdrawal, etc., amounts for that worksheet. That lets the data be ignored in computing the results from									
465	the various data sources.									
466										
467	**Finally, view your results in the "R. Results" worksheet**									
468	As you enter the data into the various worksheets, the spreadsheet will automatically recompute values in the other worksheets									
469	that use it to incorporate those changes. In particular, they will be reflected in the							R. Results	worksheet. You can see	
470	how changes in any worksheet affects the results by going back and forth between the **R. Results** worksheet and the data worksheet									
471	you are currently working on. In addition, the user entered data is summarized in the							Assumptions		worksheet.
472										
473	**Experimenting with other configurations after you have entered your personal data**									
474	You may model the income stream in various ways using temporary changes in the **S. Setup** configuration. For example, you could									
475	leave out various income sources such as stopping work early, working longer or going back to work, adding an annuity, adding a									
476	Roth IRA, claiming Social Security at different ages, working longer, taking withdrawals from the IRAs or savings at different									
477	ages, adding or elimnating irregular expenses, reducing average scheduled expenses, etc. See								FAQ	*"13. What types*
478	*of questions might be investigated using this spreadsheet?"* entry for some suggestions.									
479										
480	**Where you may enter data**									
481	The color of cells in worksheets indicates whether it is used for data entry or displaying results.									
482		**ONLY enter or edit data in RED cells.**								
483		**ORANGE cells are normally not edited unless the IRS changes various tax rates (do not edit).**								
484		**BLUE cells are major results or intermediate results (do not edit).**								
485		**BLACK cells are intermediate computations (do not edit).**								
486		**GRAY areas of the other worksheets indicate where the analysis has not been implemented yet**								
487		**and should be ignored.**								
488										
489	All data entry is at the top of each of the data entry worksheets. The following message indicates that there is									
490	no editable data below the message.									
491										
492		**- - - > DO NOT CHANGE ANY VALUES in the following tables in this worksheet. < - - -**								

4. A detailed list of all worksheet tables and sections is in Appendix A

Appendix A is a detailed list of all worksheet tables and sections. As mentioned, it lists those worksheets where data is entered, those worksheets that may have to be edited when the IRS rules or data changes, a cash-flow table where income and expenses are tallied, and finally the **R. Results** worksheet where results are summarized. It may be useful to look through these lists to familiarize yourself with the type of data that will be needed and what types of results are presented - or just view the different worksheets. It also lists external resources and various appendices subsections.

5. Notes on the current version of the spreadsheet - what it does and does not handle

See the FAQ for details on the what the current version of the spreadsheet does and does not handle include taxes. How static CPI and returns are handled. How tax-free muni bond income is handled. How RMDs are handled, etc. Appendix D lists more information about the current status including a list of things TODO and the ongoing REVISION-LIST history.

Elementary glide-path calculator (SimpleCalc) *Results worksheet (R. Results)* *Next IPT worksheet (Assumptions)*

Worksheet Navigation.

To go to a specific worksheet, click on one of the following:

Introduction
Assumptions
R. Results
S. Setup
1. AgeData
2. TaxData
3. WorkData
4. PensionData
5. SocSecData
6. AnnuityData
7. IRAdata
8. RothData

	A	B	C	D	E	F	G	H	I	J
526		9. SavingsData								
527		10. ExpensesData								
528		11. CashData								
529		12. RMDtable								
530		RS. Resources		Articles, literature, web sites						
531		Appendix A		List of all worksheets tables & sections						
532		Appendix B		Extra calculators						
533		Appendix C		Glossary of terms						
534		Appendix D		List of outstanding issues and Revision list						
535		FAQ		Frequently Asked Questions						

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