

Personal Economic Value and Survivorship

We don't hear much about personal economic value, but when considering survivorship and life insurance it helps us understand and prepare for some really large numbers. Our personal economic value is our earnings potential, or what we expect to earn between now and when we plan to stop working. If I currently earn \$124,000 each year, I'm 42 years old, and I plan to retire at age 62 (20 years from now), then:

$$\$124,000.00 \times 20 \text{ Years} = \$2,480,000.00 \text{ (doesn't account for salary increases)}$$

If I expect to receive annual increases of 3%, then the number will change significantly (as shown below). My Personal Economic Value is really \$3,331,926.44. In fact, factoring in my expected annual salary increases adds another \$851,926.44 to the total amount. One caution though, if I really did receive an increase of 3% every year, then at age 62 my annual income would be \$217,434.75. That may or may not be a realistic amount, so be careful projecting salary increases.

Personal Economic Value	
Years Until Retirement	20
Annual Income	\$124,000.00
Expected Annual Income Increase (%)	3.0%
Personal Economic Value	\$3,331,926.44

Many of our plans in life assume that our income will continue, and our expenses tend to coincide with our income (if we make more, we tend to spend more). If I were to die suddenly, would my dependents find it difficult financially to maintain their current lifestyle? Would they be burdened with bills and debt that I haven't prepared for in advance? Is \$3,331,926.44 what my survivors would need if I were to die tomorrow? Well not quite. This amount shows what I expect to earn between now and retirement, and expenses will tend to align with my earnings, but this amount doesn't take into account debts/liabilities, future major expenses, and the time period and expenses past my planned retirement age. To provide for our dependents, we can store up savings and combine life insurance coverage, but how do we determine how much is enough?

Let's start with expenses.

A total annual expense amount is needed, and can be calculated from current expenses from my budget. In our tool suite, this amount is available from Budget Analysis as shown to the right (circled in red), and is imported to the Current Expense Total for Survivorship. Bills would need to be paid after my death, just as before, and the total annual expense amount is \$75,000.00.

Expense Areas	Weekly	Monthly	Yearly
Living - 24%	\$341.54	\$1,480.00	\$17,760.00
Housing - 50%	\$720.00	\$3,120.00	\$37,440.00
Auto - 13%	\$186.92	\$810.00	\$9,720.00
Debt - 13%	\$193.85	\$840.00	\$10,080.00
Total Expenses	\$1,442.31	\$6,250.00	\$75,000.00

Survivorship	
Current Expense Total	\$75,000.00
Total Expenses Until Retirement	\$1,500,000.00

Since I plan to retire in 20 years, we use 20 years to calculate the Total Expenses Until Retirement amount. (When expense amounts change, I can adjust this plan). As shown above, the amount needed over the next 20 years, before inflation is \$1,500,000.00 (\$75,000 x 20 years). This compares favorably to the economic value of \$3,331,926.44 (even after tax consideration), but we're not finished.

Next I'll factor in the expected expenses after my planned retirement. (The expense amount is quite different. Expenses will change for a variety of reasons and will be covered in a separate article). For this example, the amount has been calculated using the Retirement

Expenses	Monthly	Annual
General Living	\$800.00	\$9,600.00
Household	\$2,250.00	\$27,000.00
Transportation	\$250.00	\$3,000.00
Other Expenses	\$400.00	\$4,800.00
Total Expenses	\$3,700.00	\$44,400.00

Expenses window, and is consolidated in Retirement Planning. My survivor will need the post-retirement expense amount of \$44,000.00 each year for life. In Retirement Planning, the longevity factor is 30 years (Retirement Age 62 + 30 = Age 92). This seems reasonable for analysis, and could be easily changed. With annual expenses of \$44,000.00 and a life expectancy beyond retirement of 30 years, the total amount needed is \$1,332,000.00 (as shown below).

The screenshot shows a software window titled "Jazer 100 - [Economic Value & Survivorship]". The menu bar includes File, Window, Budget, Debt, Finance Manager, Investment Analysis, Retirement, Utilities, and Help. The main content area is titled "Survivorship" and displays a table of expense calculations:

Current Expense Total	\$75,000.00	
Total Expenses Until Retirement		\$1,500,000.00
Post-Retirement Expenses	\$44,400.00	
Post-Retirement Expenses Total		\$1,332,000.00
Total Expenses Thru Life Expectancy		\$2,832,000.00

Adding the pre-retirement and post-retirement expense amounts together provides the total expense amount between tomorrow and the life expectancy of my survivor. Is \$2,832,000.00 what my survivor(s) would need if I were to die tomorrow? Again, the answer is not quite. Inflation will inevitably cause expenses to increase.

This screenshot shows the same software window as above, but with an additional row for inflation adjustment. The "Anticipated Annual Inflation Rate (%)" is highlighted with a red circle and set to 2.0%. The "Inflation Adjusted Total Expense Amount" is calculated as \$3,623,525.45.

Current Expense Total	\$75,000.00	
Total Expenses Until Retirement		\$1,500,000.00
Post-Retirement Expenses	\$44,400.00	
Post-Retirement Expenses Total		\$1,332,000.00
Total Expenses Thru Life Expectancy		\$2,832,000.00
Anticipated Annual Inflation Rate (%)	2.0%	
Inflation Adjusted Total Expense Amount		\$3,623,525.45

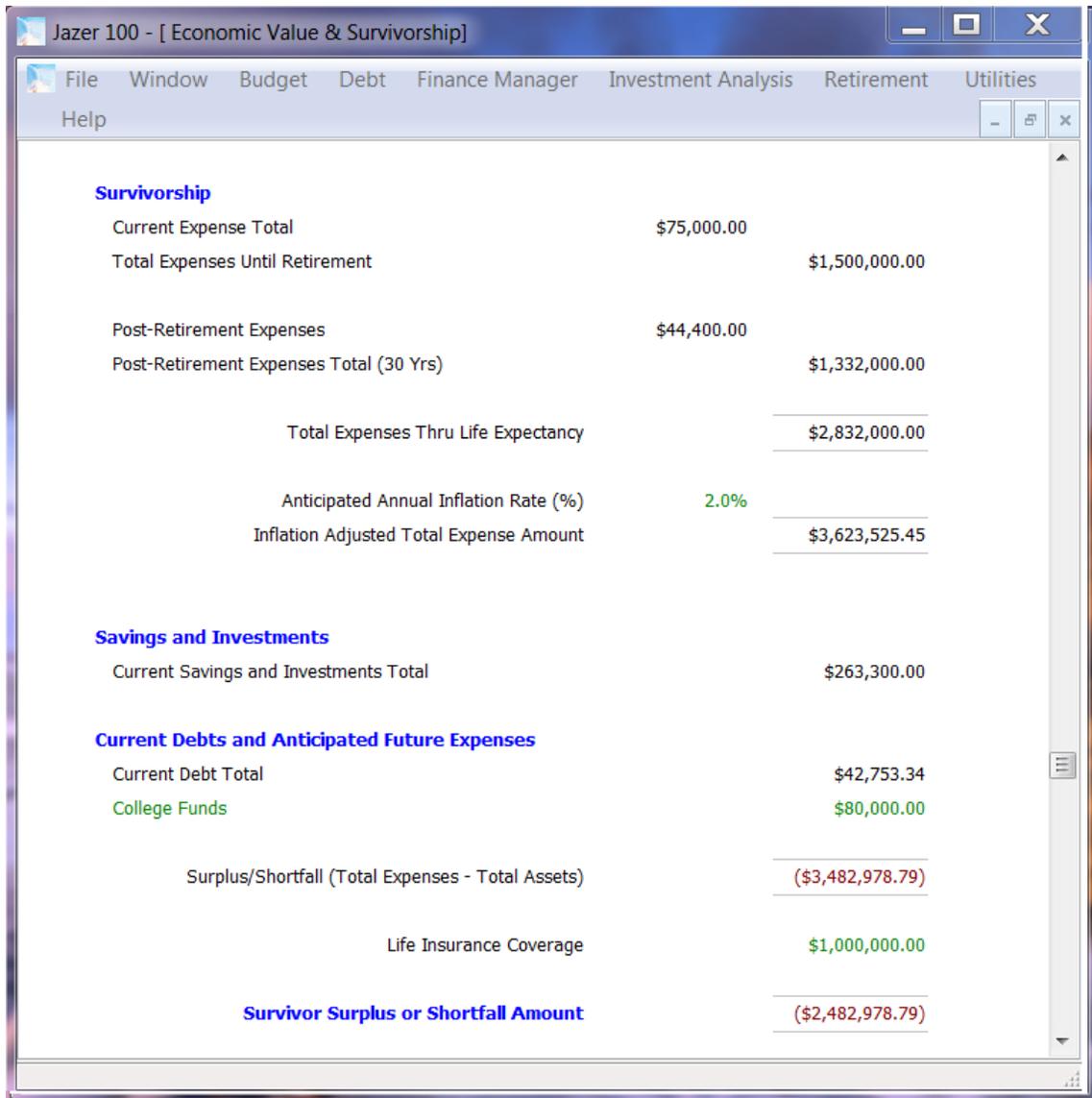
Using an average Inflation Rate of 2% (shown above) increases the total to \$3,623,525.45. Although we can't predict what the inflation rate will be in years to come, in the tool we can use various inflation amounts to see the impact. Let's keep going. We have a reasonable estimate of the total expense amount between tomorrow and the life expectancy of my survivor which is \$3,623,525.45. Next we'll look at current savings and debt, and any major expenses coming in the future.

For our example, Current Savings and Investments is assumed to be \$263,300.00, and Current Debt is \$42,753.34. These amounts are entered. One note about housing: Housing is omitted as an asset from the equations for several reasons. My survivor(s) would need a place to live and although downsizing might be an option, it's better left as an option for them to decide. Housing is included in current expenses either as a mortgage payment or rent expense. This provides the means to maintain the current housing situation.

As far as planned future expenses, we'll anticipate College Funds Needed as a major future expense of \$80,000.00. After this amount is entered, the Surplus/Shortfall amount is re-calculated (shown on next page). This is the Current Savings and Investment Total, minus the Inflation Adjusted Total Expenses Amount, minus the Current Debt Total, and minus the anticipated College Expense.

Savings and Investments	\$263,300.00
Inflation Adjusted Total Expenses	- \$3,623,525.45
Current Debt	- \$42,753.34
<u>College Fund</u>	<u>- \$80,000.00</u>
Surplus/Shortfall	- \$3,482,978.79

As a final item, we include Life Insurance to calculate the Survivor Surplus or Shortfall Amount. Let's assume that I have \$1,000,000.00 of Life Insurance coverage. This might seem like a lot, but when we consider all those years of expenses it's not even close to being enough.



Survivorship	
Current Expense Total	\$75,000.00
Total Expenses Until Retirement	\$1,500,000.00
Post-Retirement Expenses	\$44,400.00
Post-Retirement Expenses Total (30 Yrs)	\$1,332,000.00
Total Expenses Thru Life Expectancy	\$2,832,000.00
Anticipated Annual Inflation Rate (%)	2.0%
Inflation Adjusted Total Expense Amount	\$3,623,525.45
Savings and Investments	
Current Savings and Investments Total	\$263,300.00
Current Debts and Anticipated Future Expenses	
Current Debt Total	\$42,753.34
College Funds	\$80,000.00
Surplus/Shortfall (Total Expenses - Total Assets)	(\$3,482,978.79)
Life Insurance Coverage	\$1,000,000.00
Survivor Surplus or Shortfall Amount	(\$2,482,978.79)

If I were to die tomorrow my survivor(s) would need to make some major adjustments to make up for the \$2,482,978.79 shortfall. This amount wouldn't be needed right away, but at some point if major changes weren't made and expenses continued as planned, the money would simply run out. To resolve the shortfall for my survivors, I could increase my life insurance coverage, add to savings and investments, or do both. At least now I know the situation that my survivor(s) would be faced with and I can make adjustments to prepare.

As time goes by, my Personal Economic Value and the Shortfall amount will both decrease because there are fewer years between now until the retirement date. Using the same data, the results for 10 years until retirement are shown below.

The screenshot shows a software window titled "Jazer 100 - [Economic Value & Survivorship]". The menu bar includes File, Window, Budget, Debt, Finance Manager, Investment Analysis, Retirement, Utilities, and Help. The main content area displays a financial summary with the following data:

Survivorship		
Current Expense Total	\$75,000.00	
Total Expenses Until Retirement		\$750,000.00
Post-Retirement Expenses	\$44,400.00	
Post-Retirement Expenses Total		\$1,332,000.00
Total Expenses Thru Life Expectancy		\$2,082,000.00
Anticipated Annual Inflation Rate (%)	2.0%	
Inflation Adjusted Total Expense Amount		\$2,622,451.79
Savings and Investments		
Current Savings and Investments Total		\$156,756.00
Current Debts and Anticipated Future Expenses		
Current Debt Total		\$42,753.34
College Funds		\$80,000.00
Surplus/Shortfall (Total Expenses - Total Assets)		(\$2,588,449.13)
Life Insurance Coverage		\$1,000,000.00
Survivor Surplus or Shortfall Amount		(\$1,588,449.13)

Comments:

There are many variables in the example worth reviewing. In the case of housing, a mortgage might be paid off at some point along the timeline reducing expenses from that point forward. With expenses and debt, these amounts might be reduced in the near future by paying off loans for example. Income could rise at a faster or slower rate than anticipated. Savings and Investment amounts aren't adjusted in the equation to reflect interest and returns because the funds may be needed tomorrow. If they're not needed right away, then interest and growth in assets would adjust these amounts for the better.

The amounts used in the equations need to be as accurate as possible, and yet in many cases they are the best estimates we can make regarding the future. These will change over time and updating expenses, anticipated expenses, debt, and asset values periodically, and then revisiting these calculations will provide an up-to-date assessment of survivorship needs. In the case of Life Insurance, the amount of protection we carry may also change as time moves on.

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