

Creating Resilient Portfolios, Part 3: Generating Resilient Retirement Income

Part 1 of our discussion about Controlling Risk with Time showed that stability is not safety, and volatility is not risk. Part 2 showed that time eats volatility, and how using the anticipated return and time can help us choose safer but possibly higher volatility investments. Now we will use these ideas to construct an example retirement portfolio using the Portfolion® Planning technique, which is designed to produce resilient income. We will also estimate how the portfolio would have performed for a hypothetical retiree starting in 2008, the year of the Great Recession.

Example Portfolio

Eric and Erin Edwards retire at the beginning of 2008 and want to produce \$40,000 in income, before taxes, adjusted for inflation, each year for 30 years. They would like to exceed \$40,000 with an 85% probability. They have \$820,000 invested in their IRAs. Little do they know at the time, but the Edwards are retiring in a year that will have much market strife before year end.

Their advisor divides their portfolio into 30 sections called Portfolions®. Each is dedicated to one year of retirement and invested in an allocation based on the amount of time. When the designated year arrives, the Portfolion is liquidated and used as income. This ensures their income lasts exactly 30 years and they won't unexpectedly run out of money when they can no longer work.

They immediately withdraw \$40,000 for use in 2008 since they are retiring at once. That's a "null" Portfolion since it's invested for zero time. They also invest about \$41,100 for their use in January of 2009, allocated as shown in the table.

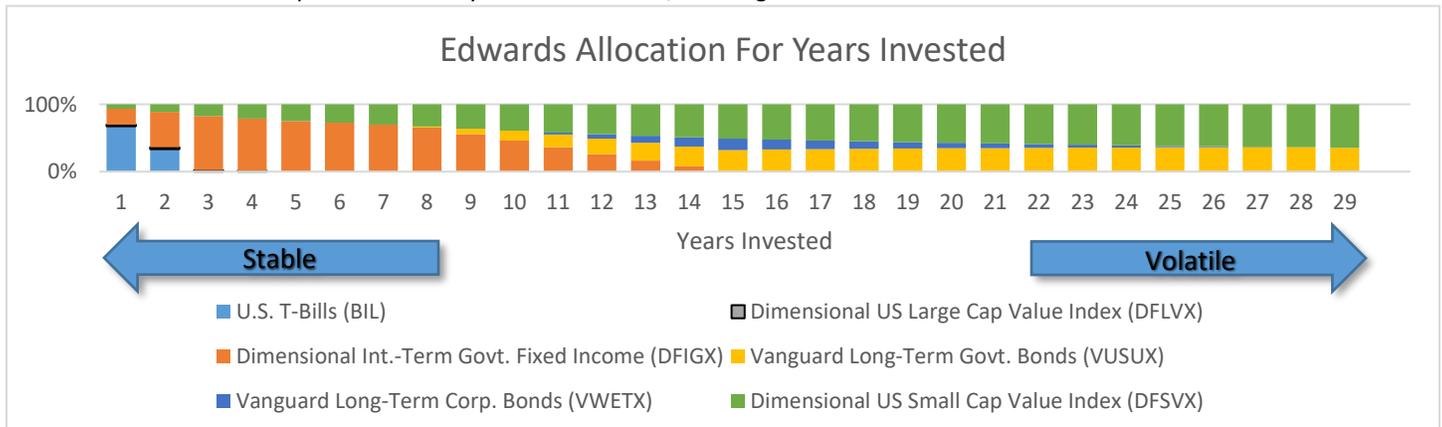
Investment (Ticker)	Percent
State Street 1- to 3-Month T-Bills (BIL)	67%
Dimensional Int.-Term Govt. Fixed Income (DFIGX)	24%
Dimensional Small-Cap Value (DFS VX)	6%
Dimensional Large-Cap Value (DFLVX)	3%

As discussed in Part 2, it's hard to safely beat inflation over a one-year period, so they invest extra in anticipation of a loss. The extra is the amount above their goal of \$40,000, which is \$1,100.

Over the course of 2008, the return of the invested Portfolion is +0.71%, despite the two stock funds losing over 35% of their value. It is also a good year T-Bills and a great year for bonds. The Portfolion's value at the beginning of 2009 is \$41,400. After subtracting inflation of 0.09%, it is still worth about \$41,400, which beats the goal by \$1,400, or 3.5%.

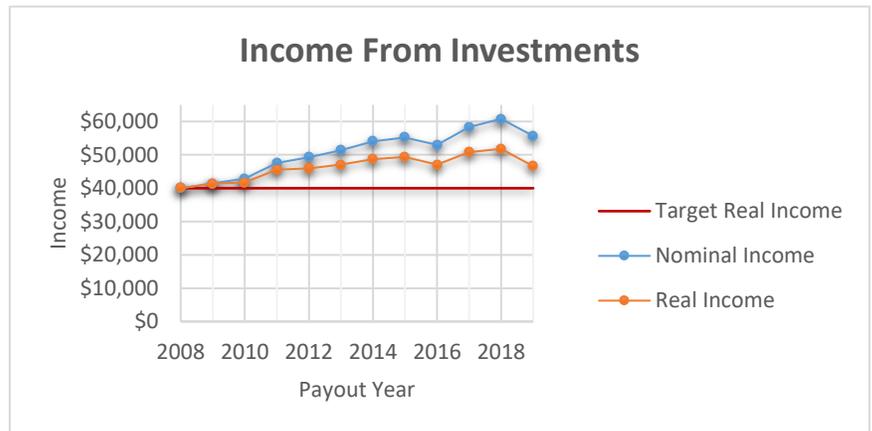
To generate income at the beginning of 2010, the Edwards invested \$41,000 as follows: 33% BIL, 53% DFIGX, 11% DFS VX, and 3% DFLVX; a more aggressive portfolio, but still mostly bonds and T-Bills. Bonds and T-Bills have such a great two-year period, the total return from the beginning of 2008 to the beginning of 2010 is 4.6% with inflation at 2.8%. After inflation, the return is 1.7%. The nominal value is \$42,900, and the inflation adjusted value is \$41,739. This beats the goal of \$40,000 by \$1,739, or 4.3%.

The Edwards continue this process in each year of retirement, creating the allocation shown below.



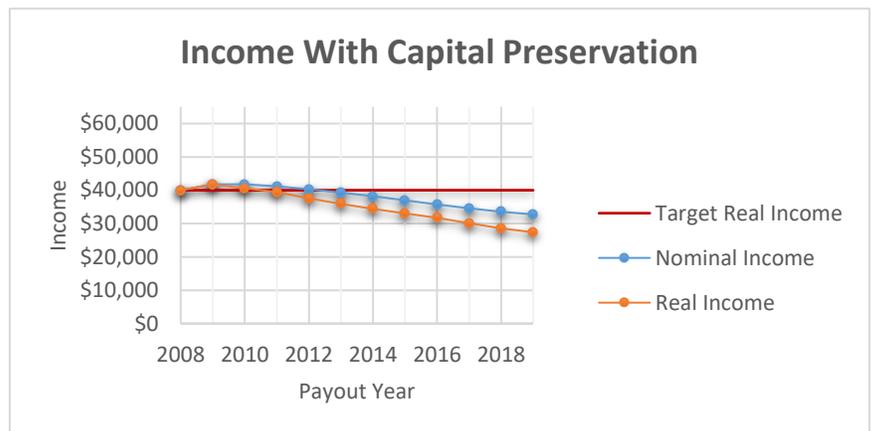
The longer a particular Portfolion is invested, the more volatile is the investment. The overall allocation is 40% stocks, 55% bonds, and 5% T-Bills.

The nominal income and “real” inflation adjusted income from this hypothetical scenario for each year between 2008 and the beginning of 2019 are shown at right. The real income tops \$51,800 in 2018, **30% above the target of \$40,000**. The nominal income hits \$60,800, a 52% increase. The 11 real payouts between 2009 and 2019 average 17% above the target and provided an average of \$6,900 extra income per year. **No year has a shortfall, despite retiring on the cusp of the crisis.**



Of course, shortfalls are possible. There are no guarantees that the income would continue to exceed \$40,000 in the future. There are market conditions which will cause shortfalls no matter what allocation is selected. Nevertheless, we see that utilizing time to select the proper allocation can provide an income that exceeds the goal. Despite nearly 40% of the portfolio being in stocks during 2018, time was enough to overcome the volatility of stocks.

If the Edwards had instead sought a capital preservation strategy and used T-Bills or money market funds for the entire portfolio, the income from the investments would have been far lower, as shown in the following chart. By 2011, the real income falls below the goal and by 2019 the real income is \$27,400; a shortfall of \$12,600, or nearly a third. To provide \$40,000 of income with the same probability as the Portfolion allocation above, the Edwards would need to have \$1.3 million instead of \$820,000, or nearly 60% more.



We see that a capital preservation strategy can often increase the long-term risk for investors. Using time to select the proper allocation is critical to increasing both the safety and the retirement income derived from investments.



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