

Which Will Live Longer: You or Your Money?

Let's take a moment to think about what you want your retirement years to look like. There are limitless options, but we'll give you just three to choose from to see which you'd like best:

- (a) Eat canned tuna and ramen most days, never travel, then die with a huge estate that you can leave either to charity or heirs.
- (b) Eat steak and lobster every night, and take a different Viking Cruise each month until all your money's gone and you move into a facility paid for by Medicaid.
- (c) Time it exactly so that your money runs out on the same day as your body expires, perhaps in the way Hunter S. Thompson once imagined it: "skid in broadside in a cloud of smoke, thoroughly used up, totally worn out, and loudly proclaiming 'wow! what a ride!'"

Obviously your individual journey will be different than these three paths, but if you could write your own script, which one of these would you lean toward?

Start With the Rule of Thumb

Most people aim for something between options (a) and (b) above. In other words, the goal is to have at least some money left over at the time one shuffles off this mortal coil. In the meantime, we try to use the resources we have accumulated to enjoy life and make some happy memories with our family's younger generations.

What is the best way to accomplish that? Perhaps you have heard of the trusty rule of thumb that you should start with a 4% annual withdrawal rate from your portfolio and then increase it each year by the prevailing rate of inflation.

If you started with, say, a \$500,000 nest egg, you would withdraw \$20,000 from it in the first year. In the second year, if you were to allow yourself a reasonable 5% rate of inflation, you would withdraw \$21,000, and so on. In the tenth year, you'd be withdrawing about \$32,500. Hopefully, with other income sources such as Social Security, this would be enough for you to keep a roof over your head and food on the table, and maybe do some fun things like travel too.

If you were to follow this withdrawal schedule, and your \$500,000 was not invested in any way (e.g., you had it stored under your mattress in small bills), you would run out of money in the early part of the 17th year.

But is 17 years enough? If you retire at 65, you would run out of money before you reach 82. And then what? What if you're still spry and could expect another decade or so of life? How would you pay for that last decade?



And it's uncomfortable questions like these that lead us to conclude that our nest egg should not be stored under our mattress, but should instead be invested in the financial markets. So now the question becomes, how much should I invest in the stock market?

Fortunately, some very smart people have looked at the historical record to help us come up with an answer to that important question. In the late 1990s, Philip Cooley, Carl Hubbard, and Daniel Walz, all professors at Trinity University in San Antonio, published a paper looking at this issue. The data has been updated through the end of 2017, which incorporates the effects of the 2000-01 Internet crash and the 2008-09 housing crash but does not yet incorporate our current malaise.

The Trinity Study

The specific question that the authors of the Trinity Study tried to answer was, "What are the odds that my portfolio will last X years when I have Y percent of it invested in stocks (with the remaining portion invested in bonds) and I begin by withdrawing Z percent of it in the first year, increasing it by 5% each year thereafter?"

In this question, the higher Y goes (i.e., the more invested in the stock market one's portfolio is), the more the value of the portfolio will fluctuate. Yes, there are big up years such as the +30% we saw in 2013, but there are also big drawdowns such as the -34% we have recently seen due to the coronavirus. It is this fluctuation that can jeopardize a portfolio's longevity that is in its withdrawal phase during retirement.

Conversely, the lower Y goes (i.e., the less invested you are in the stock market), the more the portfolio will be eaten away by inflation. If a portfolio invests only in bonds, its annual return right now will probably be somewhere between 0% and 5%. But if each year's withdrawal increases by 5% from the previous year's, that portfolio will be on a certain downward path toward zero.

Those are the general ideas. Now let's see some actual numbers for X, Y, and Z, so we can talk in more precise terms. The charts below show the odds that a portfolio will survive in each contemplated scenario.

0% in stocks		<i>Initial Annual Withdrawal Rate</i>							
		<u>3%</u>	<u>4%</u>	<u>5%</u>	<u>6%</u>	<u>7%</u>	<u>8%</u>	<u>9%</u>	<u>10%</u>
<i>Years</i>	15	100	100	99	90	64	38	23	13
	20	100	95	77	41	26	11	3	0
	25	97	79	38	25	9	3	0	0
	30	83	44	22	10	3	0	0	0
	35	72	28	9	7	2	0	0	0
	40	62	11	0	0	0	0	0	0

source: [Forbes](#)



25% in stocks		<i>Initial Annual Withdrawal Rate</i>							
		3%	4%	5%	6%	7%	8%	9%	10%
<i>Years</i>	15	100	100	100	99	77	60	38	19
	20	100	100	95	64	47	22	8	1
	25	100	100	66	46	22	9	1	0
	30	100	87	44	21	10	3	0	0
	35	100	71	22	9	7	2	0	0
	40	98	45	9	0	0	0	0	0

source: [Forbes](#)

Charts like these teach us some important lessons. First, **you definitely want at least some stocks.** In the first chart, look at the odds a portfolio will last 20 years with an initial 7% withdrawal rate and 0% of the portfolio invested in stocks: you would go to the second row, look at the fifth column, and find 26%. That is, if you have nothing invested in stocks and start by withdrawing 7% of your portfolio in the first year, you have about a 1-in-4 chance of your portfolio lasting at least 20 years. Now look at that same cell in the second chart, which is for a portfolio with 25% invested in stocks. You'll find those odds are 47%, or nearly 1-in-2.

Do the same thing with one other example: look at the odds for surviving 35 years withdrawing 5% in the first year. A portfolio with nothing in stocks would have a 9% chance of making it, while one with 25% in stocks would have a 22% chance—more than double the odds.

The second lesson is the flip side: **you definitely don't want everything in stocks.** Compare the success rates for these next two charts, which are portfolios that have 75% and 100% invested in stocks. Look specifically at two pairs of numbers: the 20-year success rate with an initial 6% withdrawal, and the 35-year success rate with an initial 4% withdrawal.

75% in stocks		<i>Initial Annual Withdrawal Rate</i>							
		3%	4%	5%	6%	7%	8%	9%	10%
<i>Years</i>	15	100	100	100	97	82	72	60	47
	20	100	100	95	81	68	53	45	26
	25	100	100	84	69	59	47	28	12
	30	100	98	78	59	48	37	13	3
	35	100	93	69	55	38	26	5	2
	40	100	92	66	45	30	6	2	0

source: [Forbes](#)

100% in stocks		<i>Initial Annual Withdrawal Rate</i>							
		3%	4%	5%	6%	7%	8%	9%	10%
<i>Years</i>	15	100	100	100	90	79	69	67	54
	20	100	100	92	82	71	62	48	40
	25	100	99	82	72	63	54	40	28
	30	100	94	78	67	56	43	37	21
	35	100	91	76	59	52	36	26	14
	40	100	89	70	55	38	28	21	9

source: [Forbes](#)



As you can see, the 75%-in-stock portfolio has odds of 81% and 93% in these two scenarios, and the 100%-in-stock portfolio has odds of 82% and 91%. These odds are practically indistinguishable, which means that a retired investor gains nothing by having her portfolio 100% in stocks versus 75%.

OK, so we want to have some stocks, but we don't want to have it all in stocks. How do we decide where to draw the line? Most university endowments, which have time horizons much longer than the maximum of 40 years from this study, shoot for a rough breakdown of about 60-65% stocks, about 30-35% bonds, and about 5% cash. Here are the odds of survival for a portfolio like this:

65% in stocks		<i>Initial Annual Withdrawal Rate</i>							
		<u>3%</u>	<u>4%</u>	<u>5%</u>	<u>6%</u>	<u>7%</u>	<u>8%</u>	<u>9%</u>	<u>10%</u>
<i>Years</i>	15	100	100	100	98	83	72	56	43
	20	100	100	97	80	66	48	38	18
	25	100	100	84	65	53	37	20	8
	30	100	99	75	54	39	26	9	2
	35	100	95	65	47	26	18	4	1
	40	100	90	58	34	18	4	1	0

source: [Forbes](#), Inkwel analysis

So if you were to choose this particular allocation of investing 65% of your portfolio in stocks, then you would need to choose the withdrawal rate that's right for you. If you go with 3% or 4%, you're virtually guaranteed to have your portfolio last as long as you do. If you go with something in the 5% to 7% range, you'd be rolling the dice a bit but you'd still have pretty good odds.

But look at the two rightmost columns in each of the five charts above. These numbers are the chances of success for a portfolio that withdraws 9% or 10% in its first year, increasing by 5% each year thereafter. For periods 20 years or longer, every single one of those odds in the charts is less than 50%, and many of them are close to zero. In other words, our final lesson from this study is: **do not withdraw 9% or more in that first year.**

A Word About Annuities

Some people may look at these odds, throw up their hands, declare that they don't want to "gamble" with their future, and buy an annuity which will provide a fixed amount every month for the rest of their lives. That may be a good option for people who just can't stomach the ups and downs of the stock market, but we advise against going this route for two main reasons.

First, the amount of the annuity benefit is fixed. That is, you may receive back each year something on the order of 6% of your initial outlay in purchasing the annuity. But that will not increase each year going forward. If you buy an annuity for \$100,000 now, you will receive back roughly \$6,000 over the next year. Then you'll receive the same \$6,000 in the second year, and



so on. So if you live another 20 years, you will receive in that 20th year another \$6,000 annuity payment. If, on the other hand, you make your own withdrawals from your investment portfolio, then you would withdraw, say, \$4,000 in that first year. But then you would adjust that amount for inflation with each passing year. In the second year you'd receive \$4,200 (i.e., the original \$4,000 plus 5%), and then by the 20th year you'd be receiving more than \$10,000.

Second, buying an annuity guarantees that there will be nothing left over after you're gone for your heirs or charities. By using the portfolio withdrawal method we're advocating, the odds are good that you would have some money left in your estate to donate or pass on. Obviously, the more untimely your death, the bigger this benefit becomes. If you were to buy an annuity and then pass away two years later, the only real winner in that scenario would be the company that sold you the annuity.

Caveats

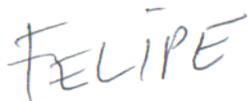
Remember that your future will be unique from everyone else's, and it will be impossible to come up with an optimal plan. Shoot for something very good rather than absolute perfection.

Also remember that all of these recommendations are based on historical data. History never exactly repeats itself, but it does rhyme. So feel free to make decisions based on the historical record, but be flexible to change your plan as your situation changes.

Also, keep in mind that the period in this important study is from 1926 through 2017, and the bond returns in the study are based on intermediate-term government bonds. There are many other types of bonds available: tax-free municipals, investment-grade corporates, and high yield corporates, just to name a few. Prevailing interest rates from 1926 to 2017 were much higher than they are today. Perhaps one day we will return to a more "normal" state of bond returns and interest rates, but with the huge monetary response our Federal Reserve system is putting into place combating the fallout from the coronavirus, that day will probably not come very soon.

And finally, as with anything, your mileage may vary. Perhaps the first 13 years of your retirement will sail along according to plan, but then in year 14 you'll be socked with large unexpected medical expenses. or perhaps a wayward grandchild will need help with legal expenses. You just never know what the future is going to hold.

So use this data to make a sensible plan, try to stick with it, and then adjust as necessary. We wish you a long, healthy, and happy retirement.



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