Did you know you could be short-changing yourself when you use some of the popular rules of thumb to drive your retirement plan?

Certainly, simple rules of thumb can be great to use when you’re age 40 and planning for retirement 20 to 30 years away. But as you get closer to retirement, these rules can work against you.

This report shows you how this happens.

Sensible Money is a professional services firm that finds financial solutions for clients by working for you - not for a bank, brokerage firm, mutual fund or insurance company. Our approach helps you control what you can and manage what you can’t.

“It just makes sense”
INTRODUCTION

Bigger than buying a house or a car, retirement is the biggest financial decision you’ll make.

Getting the right plan in motion, and sticking to it, will impact the level of financial security you have for thirty or even forty years.

But what is the right plan?

Many retirees and advisors gravitate to simple rules of thumb, like the 4% rule, which says you can safely withdraw 4% of your portfolio each year, increase that withdrawal with inflation, and expect to have your income last for life.

Do such rules work?

Certainly, simple rules of thumb can be great to use when you’re age 40 and planning for retirement 20 to 30 years away. But as you get closer to retirement, these rules can work against you.

Let’s take a look at one of the most popular retirement rules of thumb, the 4% rule, and dissect four embedded assumptions in this rule, and how they can lead you in the wrong direction.

The embedded assumptions we’re going to cover are how the 4% rule accounts for taxes, inflation, market returns, and other sources of income.

First, let’s look at taxes.
To see how taxes in retirement work, let’s look at a set of twins.

We have fraternal twins Dora and Doug, who recently reached the age of 65. They each have $1 million in total savings and investments. Both worked their entire lives.

Dora tried the corporate world when she graduated college, but she felt stifled in that environment. She decided to start her own business instead. She tried a few different businesses and managed to make ends meet, but didn’t have a big success until about ten years in, when she founded an internet marketing company. She built it from scratch and now has someone offering to buy it. Her accountant told her that if she sold it, she would have $1 million to invest after taxes.

Doug also went to college and went on to become an engineer. He went through a few minor time periods where he was between jobs, but for most of his life he earned a steady, respectable salary. He always participated in his company 401(k) plan and has accumulated $1 million in retirement savings.

Both Dora and Doug are thinking about retirement. Both spend time reading online finance blogs and articles to learn as much as possible.

Using the 4% rule, both assume they can withdraw $40,000 a year from their $1 million of investments. Both expect to have about $30,000 a year from Social Security if they start benefits at age 66. So, adding up their $40,000 from the portfolio, and $30,000 from Social Security, both expect to have about $70,000 a year.

Are they both right? No.
The first embedded assumption in the 4% rule is how it accounts for taxes. Here’s the problem – it doesn’t account for taxes. In retirement, you pay taxes. The amount of tax you pay depends on the sources of your income.

Let’s see how this works for Dora and Doug.

Dora’s investments will be in a taxable brokerage account. She will get a 1099 tax form each year that reports the interest, dividends and capital gains. This is good news for Dora. Qualified dividends and capital gains are taxed at a preferential tax rate when compared to other types of income, like IRA or 401(k) withdrawals.

Then she has Social Security income, which must be run through a formula to determine how much of it is subject to taxation.

When you combine these factors, Dora’s taxable income in her first year of retirement is estimated to be $34,600. Based on 2018 tax rates, she will pay only $300 in Federal tax. After taxes, she’ll have $69,700 to spend.

Doug’s investments are all inside retirement accounts - his 401(k) plan and IRAs. Each dollar he withdraws will count as taxable income, and also make more of his Social Security taxable. The result is that if Doug withdraws $40,000 from his retirement accounts, after using his standard deduction, Doug’s taxable income is projected to be $48,750. He will pay $6,665 in federal tax. After taxes, he’ll have $63,335 to spend.

Doug has about $6,000 per year less to spend than Dora. That’s a big difference. Especially when you add it up over 30 years.

In this scenario, the 4% rule works for Dora, but Doug may have to cut back his spending by $500 a month.

And, neither of these scenarios include state taxes. For the sake of this example, Dora and Doug are lucky enough to live in a state with no income tax.

When planning for retirement, taxes can be tricky to estimate. You may have the same gross income as your retired neighbor, but your tax bill may be tremendously different.

If you’re well-prepared for the transition into retirement, you will have run a projection of your taxes as if you were retired. You’ll know what you’ll owe, how much in taxes to have withheld from your retirement account distributions and whether or not you’ll need to make quarterly estimated tax payments. You’ll then have a clear picture of your after-tax retirement paycheck.

The next embedded assumption in the 4% rule is inflation.
2.
INFLATION

The 4% rule evolved out of a 1994 paper by William Bengen, and out of something called the Trinity study, a 1998 paper put together by three finance professors at Trinity University.

These studies tested how well a portfolio would hold up if you started drawing 4% of the value, then increase your withdrawal each year based on inflation. The consumer price index was used to determine the amount of the inflation increase.

Increasing income with inflation sounds great. We all know inflation is real. In elementary school, I recall riding my bike to the nearest grocery store to buy my favorite candy bar, a Reese’s peanut butter cup. A two-pack cost a quarter. Today they cost about $1.40.

A gallon of gas cost 55 cents when I was growing up in Iowa. In January 2019, it is hovering about $2.50 - $3.00 a gallon in Arizona.

Yes, inflation is real.

But to live comfortably, do retirees need their spending to increase each year at the same pace as inflation?

No.

You might be thinking, “But what about health care costs, and the price of gas? I know these things go up each year and I need to be able to afford them.”

You are 100% correct. You do need to be able to cover price increases on necessities.

“It just makes sense”
But naturally, as we age, our spending shifts.

My favorite research paper on this topic is *Estimating The True Cost of Retirement*, written in 2013 by David Blanchett. David is the Head of Retirement Research at Morningstar.

His research shows that spending is at its highest when retirees are in the age range of 60 to 65. Then, spending slows down, with those same retirees spending a lot less as they enter the age range of 75 to 85. As retirees near age 85+, spending tends to increase again, primarily due to health care needs.

This spending pattern is described as the “go-go years, the slow-go years, and the no-go years.”

This Morningstar research paper dives even deeper and segments retirees into three groups; those who spent about $25,000 a year in retirement, $50,000 a year, and $100,000 a year or more.

Inflation has the biggest impact on lower spending households.

Now, this makes sense – when you’re on a tight budget, basics such as food and gas make up a large portion of your spending. Price increases on these basics leave you with little left over for other things.

For households spending $100,000 or more in retirement, inflation has less of an impact.

Although higher-income households do need their income to go up each year, income does not need to go up at the same rate as inflation. If inflation averages about 3% a year, a high-income household might only need their spending to go up at 1 to 2% a year, while a lower income household would need spending to go up at about 2.7% a year.

For example, if you start taking $40,000 a year, and increase it at 3% a year, in twenty years you’re withdrawing just over $70,000 a year.

If you start taking $46,000 a year and increase it at 2% a year, in twenty years you’re taking out $67,000 a year.

Both of these scenarios have planned for inflation. But in the scenario where you start taking withdrawals at $46,000 a year, you have more to spend during your earlier retirement years.
Overall, the research concludes that retiree expenditures do not, on average, increase each year by inflation.

How does this impact Dora and Doug?

To account for the way their natural spending patterns will evolve, their initial withdrawal rate could start at 4.6%, or $46,000 a year, giving them more during the go-go years.

They would still need this dollar amount to go up slightly each year, but not at the same rate as inflation.

Dora and Doug both examine this research on the need for inflation-adjusted withdrawals. It even passes Doug’s rigorous engineering-like standards. Both decide they’ll start taking out $46,000 a year.

By structuring withdrawals to match natural spending patterns, the probability of your money lasting a lifetime can remain the same. But you can shift spending to the go-go years, where you are more likely to be healthy and active.

When running your retirement projections, you’ll want to customize the inflation assumptions to your expected level of annual spending. Households with annual spending of $100,000 or more can use lower assumed inflation rates in their planning than households with annual spending of $50,000 a year or less.

Now that we’ve looked at taxes and inflation, let’s look at market returns.
3. MARKET RETURNS

In retirement, you need to know you are NOT going to run out of money.

One way to approach this is to spend so little, that even if conditions like The Great Depression come along again, you’ll still be okay. These are the conditions the 4% rules uses.

Let’s put this in perspective. Imagine commuting to work each day as if there were major roadwork occurring on your normal route to work. Every day, you’d leave early, so that just in case you encounter a detour you could still get to work on time.

Would you do this, every day, just in case? Likely not.

Yet, if you base your withdrawals on the 4% rule from day one, that’s exactly what you are doing. You are planning your spending as if The Great Depression started the year you retire.

The majority of market conditions we encounter are not like The Great Depression. According to Michael Kitces, author of The Nerds Eye View blog which provides in-depth research on retirement-related topics, unless we see the return of a Great Depression era, followers of the 4% rule “will most commonly just leave a huge amount of money left over.”

I don’t know about you, but I don’t want to base my retirement income on Great Depression era conditions. At the same time, I MUST know my money will last if something like The Great Depression comes along.

Is there a way to accomplish both goals?

Yes, there is. But it requires more thought than following a rule of thumb.
What you do is build in contingency plans.

Public buildings require emergency exit plans. Pilots must fly crash-landing simulations. Businesses must have data back-up plans. Most of the time, these emergency plans aren’t needed. But if an emergency does come up, there’s a plan in place to follow.

What kind of contingency plans can you use for your retirement? There are many.

Let’s go back to our twins, Dora and Doug, and see what kind of contingency plans they choose.

Dora likes to travel, and during her first ten years of retirement, she wants to spend an extra $10,000 a year on travel. She knows in all but the worst market conditions this will work.

She decides to withdraw the extra money to travel, as long as her portfolio value stays over a minimum threshold amount. She picks $800,000 as her threshold. If her portfolio drops below $800,000, she’ll forego the extra travel, and skip or reduce her built-in inflation raises. As long as her portfolio value stays over $800,000, she’ll keep traveling. Dora adds $10,000 a year on to her initial $46,000 a year withdrawal and decides to start retirement taking out $56,000 a year.

For Dora, who is comfortable with risk and change, this approach feels fine.

Doug, being an engineer, wants a contingency plan that has been more rigorously tested. He finds research by Jonathon Guyton and William Klinger on a set of dynamic withdrawal rate rules that can be applied.

One of Guyton-Klinger’s rules is that during any year where your portfolio has a negative return, you skip your inflation raise.

Another one of Guyton’s rules, called the Capital Preservation rule, requires a 10% reduction in your withdrawal under certain specified conditions. On the flip side, there is a Prosperity rule, where you get a 10% increase under conditions where you have a significant amount of remaining assets relative to what you are withdrawing.
Doug devours the research, which says that by following these rules, a starting withdrawal rate of 5.2% to 5.6% is sustainable at a 99% confidence level.

Being an engineer, Doug feels confident in his ability to measure his portfolio each year and consistently apply these rules. Still, he wants to be conservative. He decides on an initial withdrawal rate of 5%, or $50,000 a year.

Unfortunately for Doug, this extra IRA withdrawal increases his tax bill to $9,558. After tax, his expected take-home is now $66,000, still shy of the $70,000 he was hoping to have.

Both Dora and Doug now have more retirement income in their earlier retirement years. They know their withdrawals are sustainable in all but the worst market conditions. They also have contingency plans so if their portfolio has several years in a row where it earns a negative return; they know ahead of time exactly what they will do. And the changes they would need to make are not changes that would drastically impact their lifestyle.

What other contingency plans might you consider?

- You can plan to downsize your home to free up home equity in your later years.
- You can purchase long-term care insurance to help cover potential health care costs later in life.
- You may start retirement owning toys, such as boats, RVs, and air-planes, and plan to sell off these assets when you enter your slow-go years.

Having a contingency plan allows you to start retirement with an income based on normal economic conditions. Peace of mind comes from knowing ahead of time what changes you'll make if an economic storm comes along.

Now, the last missing piece to look at when evaluating the 4% rule is how it accounts for other sources of income you have.
4. OTHER SOURCES OF INCOME

The 4% rule is about how much you withdraw from savings and investments. Most of you have additional sources of income, such as Social Security, pensions, rental income, annuity income, or earnings from part-time work.

The 4% rule fails to account for these other sources of income, and the timing of when they may start.

As I mentioned, both Dora and Doug expect to have about $30,000 a year in Social Security, which is estimated based on what they get if they start benefits at age 66.

They know they could get more if they wait and begin benefits at age 70, but they don’t want to deplete their savings too fast, so they figure they should start Social Security right when they retire.

Is this the best plan?

Probably not. Let’s take a closer look to find out why.

If they start benefits at age 66, they’ll each receive about $2,500 a month. If they wait until age 70, they can get about $3,570 per month. Your Social Security benefits adjust with inflation, so this $3,570 per month assumes a 2% inflation adjustment was applied to benefits each year. The numbers on your Social Security statement do not show you the impact of this inflation adjustment – and many people who devise their own spreadsheet calculations do not factor it in, and thus aren’t using accurate numbers in their calculations.
Neither Dora or Doug wants to delay retirement to age 70. That means if they wait until 70 to start Social Security, they must withdraw the full $70,000 a year from their portfolio for the first four years of retirement. This equates to a 7% withdrawal rate. This sounds risky to them, which is why they didn’t think it was a good idea.

Is it really that risky?

Both are healthy and expect to live a normal life span. Using 2014 mortality tables, and looking at the white-collar data set, and the odds of living to age 85, Dora has a 66% chance and Doug has a 60% chance. If I were headed to Vegas, I’d bet on those odds any day.

Right now, we’ll assume Dora and Doug are both single, so they don’t have to consider survivor benefits or spousal benefits. The primary factor they want to look at is their break-even age, which for each of them is about age 83. If they live past age 83, they’ll get more lifetime income from Social Security by waiting until age 70 to start benefits.

For example, if Dora starts benefits at age 66 and lives to 90, she’ll receive a cumulative $912,000. If she waits until 70, she’ll receive a cumulative $1,017,000 – a difference of $105,000. Now, that sounds like a lot - but don’t get too excited yet - it’s not the mathematically correct way to look at it.

To be mathematically correct, you have to realize that $1 in the future is not worth as much as a $1 today. This is because of inflation. And, you must factor in the time value of money which means you are accounting for the fact that your funds will earn something. They aren’t simply hidden under the mattress. If you delay the start of Social Security, you must withdraw additional funds and they will no longer be working for you.

To account for these factors and translate money that you will get in the future into what it means in today’s dollars, you use a math formula called present value. Calculating present value requires something called a discount rate – the rate that discounts future dollars back into today’s dollars.

For these scenarios, where we are comparing Social Security strategies, we’re going to use a 3% discount rate. We assume Social Security benefits increase at a 2% inflation rate and we assume your portfolio is conservatively invested and will earn on average 1% more than the inflation rate. Add those together and that leads to a 3% discount rate.
Now, sure, you may be able to invest in riskier assets – and earn a higher return – but Social Security is guaranteed. To construct an apples-to-apples comparison when modeling out Social Security strategies, you need to compare the returns to what you get on other safe, guaranteed investments.

In Dora and Doug’s case, if they start Social Security at 66, the present value of all the dollars they will receive through age 90 is $607,902. If they start Social Security at 70, the present value is $655,281. This is a difference of just over $47,000. What that means is delaying Social Security is the same as if they retire with an additional $47,000 in savings. This is the mathematically correct way to compare options.

Is there anything else missing in this analysis?

Yes. Dora and Doug need to factor in two additional things.

First, taxes.

Because of the complex formula that determines how much of your Social Security is taxed each year, if Doug starts benefits at 66, 85% of his benefits will be taxed each year. But if he starts benefits at 70, for the first 10 years, only about 60% to 80% of his benefits are taxed each year - instead of 85%. That means in the scenario where Doug waits until age 70 to begin benefits, not only does he get more cumulative cash flow, he pays less in taxes on what he gets. Pretty cool!

The only way for Doug to see this is to run a personalized financial model that projects his taxes each year in retirement. A simplified model that uses an assumed tax rate will not accurately capture the nuances that can result in a lower tax bill for Doug.

When Doug models his two scenarios out, he solves for $65,000 a year of after-tax spending that will go up at 2% a year to keep pace with inflation. His model assumes an average 5% rate of return on savings and investments. In the model where he starts Social Security at age 66, he projects at age 90 he’ll have just over $500,000 of remaining investments.

In the model where he starts Social Security at age 70, and takes more out of his IRA between the ages of 66 and 70 to fill the gap, he projects he’ll have just over $680,000 remaining at age 90.
Not only does he have more remaining assets in the delayed Social Security scenario, he now also has more monthly guaranteed income coming in during his later years.

Guaranteed income later in life is important as cognitive decline impacts each person in a different way. More guaranteed income means more protection in case a future you isn’t as cognitively sound as you are today. Doug realizes delaying the start of his Social Security puts him in a more secure position across the board.

Next, instead of worrying about each year’s withdrawal rate, Doug, being an engineer, decides to create a ratio to compare his scenarios. First, he looks at his total lifetime withdrawals. To do this he projects the amount that would be withdrawn each year now and all the way through his life expectancy. He then takes the present value of those cash flows.

Doug is now comparing not just Social Security strategies, but looking at his entire household finances. So Doug uses a 4% discount rate that reflects what he considers to be a conservative estimate of what his entire portfolio can earn, on average, during his retirement years.

To compare his choices, first, Doug models the scenario where he begins Social Security at age 66. He calculates that the present value of his lifetime withdrawals will be about $920,000. What Doug’s $920,000 present value number means is that for his plan to work by the start of retirement he needs a minimum of $920,000 saved, earning on average 4% a year or more.

Next, Doug takes the present value of his lifetime withdrawals and compares it to what he has now. Doug has $1,000,000, so he is feeling pretty good about this.

Now, Doug divides his $920,000 into the one million that he has to create what he calls a “fundedness ratio.” His fundedness ratio is 109%. Think of this fundedness ratio like a version of a lifetime withdrawal rate. You are taking your lifetime withdrawals and comparing it to what you have. Doug’s fundedness ratio indicates he has 109% of what he needs.

Doug then models the scenario where he begins Social Security at age 70. The present value of Doug’s lifetime withdrawals in this scenario works out to be $857,000. This is great! It means with this choice, Doug needs fewer dollars to deliver the same lifestyle.
Using a 4% discount rate, Doug would like his plan to maintain a 110% or greater fundedness ratio. That means he wants his current savings to stay at 110% or more of his remaining projected lifetime withdrawals.

Now that he has a model, Doug begins to play around with it. He plugs in extra funds for travel in his first five years of retirement. He is amazed to see if he uses the claim at age 70 Social Security approach, he can spend a little more, and still have a plan that is in safer territory than if he were to begin benefits at age 66.

He would have never come to this realization using the 4% rule.

Doug is excited about what he has learned by putting together his financial model. He calls Dora to convince her to let him run the model for her, which she readily agrees to.

Because Dora will have a much lower tax bill over retirement, she starts her model with a desired $70,000 a year in spending. If she begins Social Security at age 66, her lifetime expected withdrawals are $828,000, resulting in a 121% fundedness ratio.

If she begins Social Security at age 70, her lifetime withdrawals are estimated at $781,000, resulting in a 128% fundedness ratio. Like Doug, she can also afford the extra withdrawals for travel early in retirement.

If we look at Dora or Doug’s plan in traditional terms, in early retirement they will have a withdrawal rate as high as 8% - but once their age 70 Social Security benefit begins, it drops to 4%. Meanwhile, their fundedness ratios look just fine.

Both Dora and Doug know that their model works as long as savings and investments earn, on average, 4% a year or more. Both know if their investments earn less than that, during those years they’ll plan on foregoing their built-in 2% inflation raise. This is one of the contingency plans they have put in place.

In all but an Armageddon scenario, Dora and Doug will be happily traveling in early retirement, getting to see the world. They would not have felt comfortable doing this if they had used a simple rule of thumb.
CONCLUSION

You’ve now learned how a simplified rule of thumb, like the 4% rule, does not accurately account for taxes or inflation. You’ve also learned that it forces you to begin your retirement as if you were in Great Depression conditions. And, you’ve learned that it does not easily allow you to factor in other sources of income, like Social Security.

If following a rule of thumb isn’t the best course of action, what should you do instead?

What you need to do is build a customized plan. When I say “plan” I don’t mean an asset allocation plan that shows you how much money should be in stocks vs. bonds.

A retirement income plan is far more comprehensive than that. A real retirement income plan is a robust financial model that projects your income, expenses, account balances, and taxes - using your numbers – not generalized assumptions.

Building a personal financial model allows you to project your lifetime withdrawals, and tally them up. You then compare them to what you have saved now to get a fundedness ratio. You use this ratio to compare different plans and objectively see which one puts you in the best position for a long-lasting, comfortable retirement.

Where does this concept come from and how can I get help with my plan?

The concept of a fundedness ratio comes out of the coursework for the Retirement Management Advisor® designation offered by the Investments & Wealth Institute.

The RMA designation signifies a planner has taken a deep dive into what is called the “decumulation phase” of life, where you must live off your acorns. The planning skills and tools needed at this stage are different than the skills and tools that work most effectively in the accumulation phase.

“It just makes sense”
OUR PROCESS.

I founded Sensible Money in 2011 to build a team of planners who focus on decumulation and consistently use the methodology described in this report. Each week we see first-hand how this planning process can improve outcomes for retirees.

To learn more about our services and how we build personalized financial models for each client, visit us at www.sensiblemoney.com.

Our process starts when you complete a short online Pre-Meeting Questionnaire (https://www.sensiblemoney.com/premeeting/), which is available on our website. Then we reach out to set a complimentary introductory meeting. During this meeting, we encourage open conversations where you ask questions, we learn more about you, and we share specifics about how we deliver our planning and investment management services.

We hope to hear from you soon!

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