

## 72 AND 4: TWO NUMBERS TO HELP YOU THINK ABOUT RETIREMENT SAVING AND SPENDING



The power of global markets makes it possible for the average person to save enough money during their working career to retire and live on the income that can be generated from their saving and investing. But just because a positive outcome like adequate retirement income is possible doesn't mean it's probable.

What shifts the odds of achieving success in your favor – from possible to probable – has more to do with the actions you take than the randomness of markets. Even a person (or couple) with a modest income has the opportunity to achieve this goal, if they exercise a little financial discipline and investing prudence.

The mechanism that makes this possible is compounded interest (or compound growth). Famous physicist, Albert Einstein, is credited with claiming, "The most powerful force in the universe is compound interest."<sup>1</sup>

Money sent out to work as equity (stocks) or debt/loans (bonds) is able to add to itself and thereby grow its rate of growth. Given enough time, patience and discipline, this growth can be exponential.

For example, if you have a \$100 investment that is earning 5% annually, at the end of one year you'd have \$105. Reinvest all of it for another year at 5% and you'd have \$110.25. Continue the process and your principal grows like a snowball, increasing the rate at which the original investment grows each time it goes around.

### **Using The Rule of 72 to Calculate Growth**

Because this process accelerates the rate at which your money increases, it requires more than 3rd grade math to describe its growth.

The basic formula for the future value of an investment is  $Pe^{rt}$ .

- **P** is your principal.
- **e** is Euler's number (an irrational constant usually rounded to 2.718).
- **r** is your rate of return.
- **t** is time measured in years.<sup>2</sup>

It's a powerful equation for predicting growth. But calculating something as simple as how long it will take your money to double can get a little complex. How are you at logarithms?

Fortunately, you can use the Rule of 72 as a handy approximation.

Here's how it works. If you want to know how long it will take for an investment to double, simply divide 72 by your rate of return.

For a 5% return,  $72/5$  equals 14.4 years. A 10% return,  $72/10$ , will take 7.2 years to double. And notice that the 10% return will double the original capital again by the time the capital in the 5% return scenario has doubled just once.

The Rule of 72 is an easy way to see the power of greater return rates over time.

### **Sustaining Your Retirement Income: The 4% Rule**

Saving a substantial sum over decades is both a worthy goal and a complex challenge. But with today's increasing life expectancies, getting to retirement age might actually be just half the battle. When you've reached your retirement goal, you need to know how much you can spend each year to keep from running out of money.

This is where the 4% Rule comes in. It's pretty simple. The 4% Rule suggests targeting your total spending to be just 4% of your total investment capital each year of retirement.<sup>3</sup> Not only will this help preserve your principal, but if your principal investments can earn greater than 4%, your target spending amount may increase in years where returns are better, giving you some protection against inflation.

While we'd all like to have investments that consistently deliver great rates of return, we realize that putting capital at risk means embracing the implied volatility over time. So the only variable you have the greatest control over is your rate of spending. That's why budgeting and debt management are so important in financial planning.

Obviously both the Rule of 72 and the 4% Rule are approximations that are helpful for thinking about retirement saving and spending in general. Like any "rule of thumb," these are guidelines are intended to simplify the variables rather than be specific to your unique situation.

Reality is expected to be much more complex and less predictable. We are here to help you design and deploy an investment plan to fit your specific needs and goals, and also help you see it through the spending years.

Have a great weekend!

Source: Efficient Advisors

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## Golf Tip of the Week



### Tips to Swinging Your Golf Club on a Plane

One of the best ways to improve your game for more accurate shots is to maintain your swing plane. Golf pros say the biggest mistake amateurs make is not focusing on their planes.

Maintaining your swing plane involves keeping your club parallel to the original shaft angle at impact as it rotates around your body.

While swing planes may vary according to players' postures, more even planes generate consistency and straighter shots. Here are 7 steps for developing an even plane:

1. Step up and prepare to address.
2. Place the sole of your club flat on the ground.
3. Ensure your shaft alignment points your club at your beltline.
4. Put your body over the ball. Your hands should grip the club comfortably without extending your arms. Your arms should hang straight down.
5. Draw back the club for a slow-motion swing while maintaining your shaft angle for consistency.
6. Continue the swing while monitoring the shaft angle.
7. Practice the swing motion to get comfortable with the movement.

Tip adapted from Golfweek<sup>15</sup>

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## Recipe of the Week



### Chocolate Sundae Cupcakes

#### Ingredients:

½ pound unsalted butter, at room temperature (2 sticks)  
2 cups sugar  
2 teaspoons pure vanilla extract  
2 large eggs, at room temperature  
3 cups all-purpose flour  
⅔ cup unsweetened cocoa powder  
2 teaspoons baking soda  
¼ teaspoon fine sea salt  
2 cups sour cream, at room temperature (16 ounces)

#### Whipped Vanilla Icing

2 cups heavy cream, at room temperature  
1 teaspoon pure vanilla extract  
½ cup confectioners' sugar

#### Directions:

1. Heat the oven to 350°F.
2. Put cupcake liners in cupcake pan.

#### Cake:

1. Use a hand mixer or a stand mixer with a paddle attachment to whip the butter on high speed, 1 minute. Use a spatula to scrape mix from the sides of the bowl.
2. Put the sugar in with the butter. Beat on high speed, 2 minutes. Scrape the sides of the bowl again.

3. Use the mixer on medium-low speed as you add the vanilla extract. Add the eggs one at a time. Scrape the bowl again midway through the mixing.
4. Mix the flour, cocoa powder, baking soda, and sea salt in a separate bowl.
5. Use the mixer on low speed while adding half the flour mixture.
6. Add half of the sour cream after the mix is mostly incorporated. Put in the remainder of the ingredients (dry and wet). Scrape the sides of the bowl between the additions of ingredients.
7. Once the batter is smooth, stop mixing.
8. Put the batter in the prepared pan.
9. Bake the mix until the cake feels springy in the middle, 25-30 minutes.
10. Let it cool before adding icing.

### **Icing:**

1. Put cream, vanilla, and sugar into a chilled mixing bowl. Whip on high speed until stiff peaks form, about 2 minutes.

### **Cupcakes:**

1. Use whipped vanilla icing to frost cupcake. Gently drip hot fudge sauce on cake. Put sprinkles and a cherry on top.

Recipe adapted from Good Housekeeping<sup>13</sup>

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## **Health Tip of the Week**



### **The Ups and Downs of Diabetes**

More than 30 million Americans (9.4% of the population) suffer from diabetes, a disease involving the pancreas' ability to produce insulin, according to the American Diabetes Association.

A healthy pancreas, which is an organ behind the stomach, releases insulin to help your body process sugar and fat.

In type 1 diabetes, your body's immune system destroys pancreatic cells that make insulin. In type 2 diabetes, the more common form, the pancreas produces insulin, but not enough for the body to be able to process it effectively.

Doctors check fasting blood sugar levels to diagnose diabetes. Treatment for those with type 1 diabetes involves careful monitoring of blood sugar levels, undergoing insulin therapy, consuming a healthy diet, and getting adequate exercise.

Treatment for type 2 diabetes includes a healthy diet, exercise, medication, and insulin.

Material adapted from WebMD<sup>16</sup>

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Sources:

1. <http://go.efficientadvisors.com/e/91522/in-the-universe-is-158830-html/5fq6gc/426942088>
2. <http://go.efficientadvisors.com/e/91522/y-the-rule-of-72-works-2014-12/5fq6gf/426942088>
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<sup>15</sup> <http://golftips.golfweek.com/swing-golf-club-plane-2047.html>

<sup>13</sup> <https://www.goodhousekeeping.com/food-recipes/dessert/a46792/chocolate-sundae-cupcakes-recipe/>

<sup>16</sup> <http://www.diabetes.org/assets/pdfs/basics/cdc-statistics-report-2017.pdf>

<https://www.webmd.com/diabetes/default.htm>