Golf and What It Can Teach Us
About Investing for Retirement

" A good golfer has the determination to win and the patience to wait for the breaks. "

- Gary Player

By Waterloo Capital
Investment Team

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I n 2016, PGA Tour winner Jordan Spieth was on his way to a second consecutive Master's title as he woke up Sunday morning. The 22-year-old Texan held the 54-hole lead and merely needed to play stable, consistent golf as he approached the final nine holes with a multiple shot lead.

Spieth walked up to the Par 3 12th squarely in first. However, as he teed off and the ball flew towards the pin, the backdrop of blooming azaleas became overshadowed by Rae's creek surrounding the green in front. Jordan hit wedge. Splash.

Frustrated, Spieth takes a penalty drop hoping to go after the pin again and walk away with just a scratch. Wedge. Splash. It only got worse. Wedge. Bunker. Quadruple Bogey.

In what seemed like a second, Jordan Spieth compounded key errors and dropped from first to fourth. With only 6 holes to play and now three shots back, his fate was sealed, not having enough time to make up the deficit. The lack of discipline and patience cost Spieth a second Green Jacket.

Anyone who's played the game knows, it's very easy to replicate Jordan's fatal error; slicing balls into the pond, duck hooking it into the woods, or even waiting for the green to clear on a Par 5 and topping it. Yet, not letting these minor hiccups determine catastrophe is key in posting low scores in the game of golf. **The same can be said in investing as being patient, process oriented, and avoiding large drawdowns are principles that can yield enhanced positive results in the long term.**

How Much Should You Save for Retirement?

B y age 50, many financial advisors recommend having a total of about 5X to 6X of your annual income in your retirement savings accounts. This amount, with continued growth over your working years, should provide enough savings to retire comfortably by age 65.

To estimate how much you need to save for retirement per year, experts suggest planning for about 80% of your pre-retirement income. This is because most households have fewer expenses in retirement, except for healthcare costs, which tend to rise. **A rule of thumb is to withdraw about 4% per year from your retirement fund,** considering the money in your retirement fund, the expected rate of return, and your anticipated Social Security income.

For example, if you plan to need $80,000 per year in retirement and receive about $20,000 per year from Social Security, you would need to withdraw an additional $60,000 per year from your retirement fund. Applying the 4% rule, this suggests having around $1.5 million in your retirement fund. More conservative recommendations exclude Social Security and suggest aiming for $2 million in your retirement fund.

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To reach these targets, it's important to save and invest, and consider opening multiple retirement accounts [aka IRAs, 401k, pension, savings, etc.], manage debt and spending, and potentially earn more or retire later. Seeking a rate of return around 7% to 8% over the last few decades can help you reach your savings goals. However, there is a sound chance that the average investor could earn much less, around 5%, over the next decade given where stock valuations and current interest rates have settled.

If you want to accumulate $1.5 million in 25 years and expect to earn an average annual return of 5% on your investments, you can use the future value investment formula to determine how much you need to save per year. Rearranging the formula to solve for PMT, we have:

$$PMT = FV * r / [(1 + r)\text{^}n)-1]$$

Where:

FV = desired future amount = $1.5 million
PMT = Annual savings amount = $????
r = Annual average return = 5% or 0.05
n = Number of years invested = 25

Plugging in the values:

PMT = 1,500,000 * 5% / [(1 + 5%)^25 - 1] ≈ **$31,428**

Therefore, you would need to save approximately $31,000 per year for each of the next 25 years to accumulate $1.5 million, assuming an average annual return of 5%. Much of this growth is due to the amount of compound interest earned throughout time as the graphic below demonstrates. The key to investing for the long-term is consistency and patience.

Saving $31,428/Yr Earning 5% for 25 Years
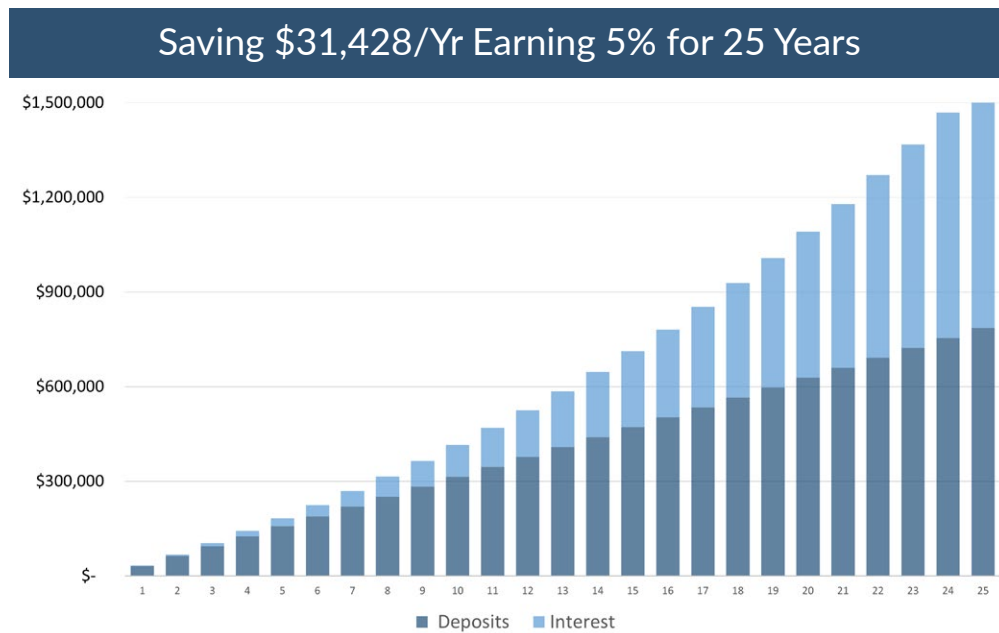
If we use an annual return of 7%, the amount you would need to save **drops substantially to $23,715 per year** for the next 25 years to accumulate the same $1.5 million. Clearly efforts to increase your earnings from investments pays dividends. **However, avoiding big drawdowns (avoiding high scores) is even more important to earn a high rate of return!**

Saving $23,715/Yr Earning 7% for 25 Years
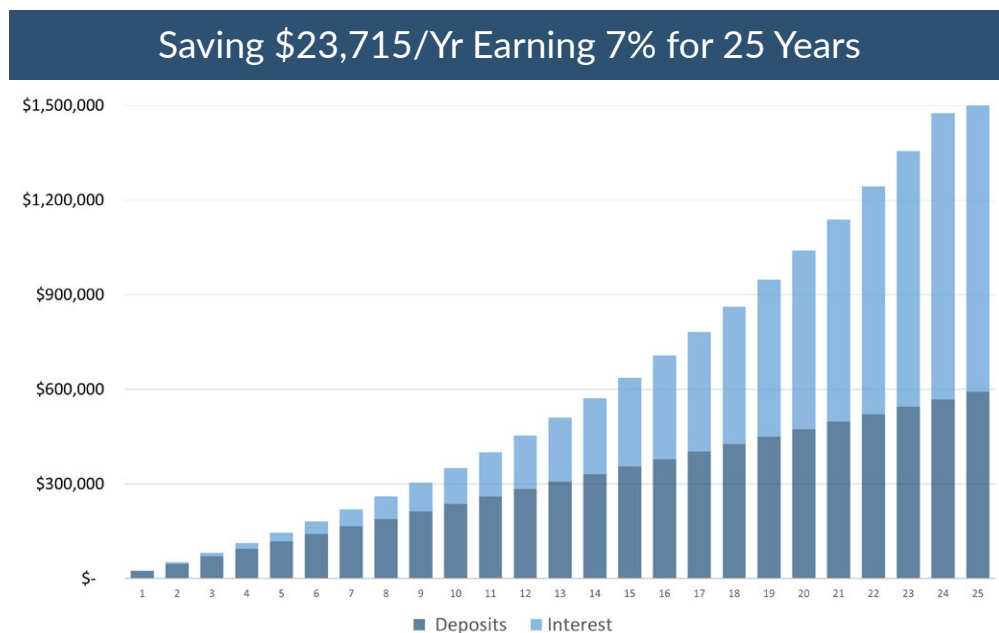
D rawdowns refer to the decline in portfolio value from its peak to its trough. They are typically expressed as a percentage calculated by dividing the decline in value by the peak value and multiplying by 100. For example, a decline from $1,100,000 to $820,600 would result in a drawdown of 25.4%, **the same percentage drawdown experienced in the bear market of 2022.** [(1,100,000 – 820,600) / 1,100,000] * 100
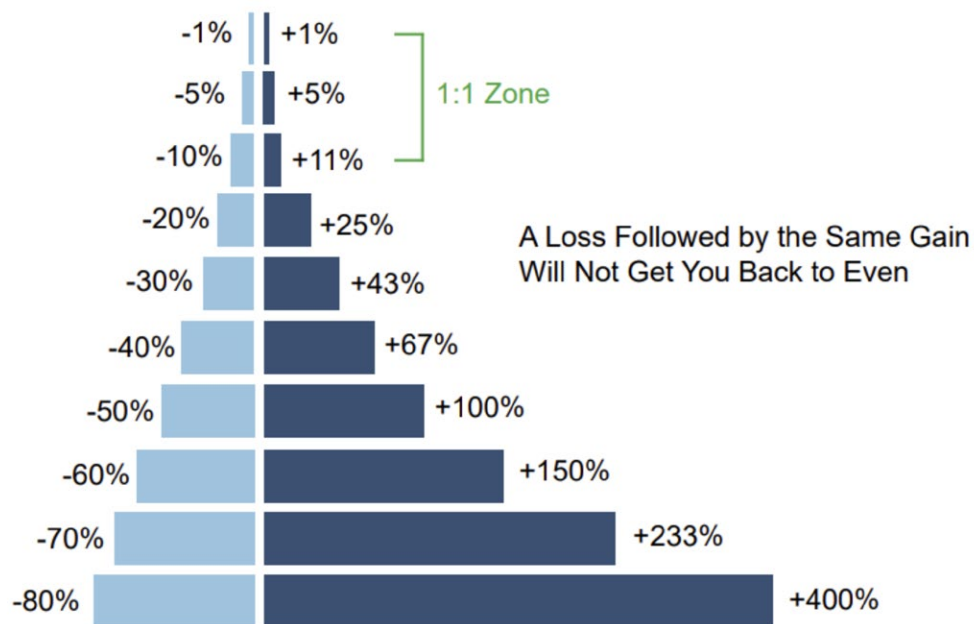
To calculate the amount the portfolio needs to recover to breakeven, you would need to consider the percentage change from the trough back to where it was previously. To calculate this, you can use the following formula:

Recovery Percentage = (Drawdown Percentage / (1 - Drawdown Percentage)) * 100

Plugging the 25.4% into the formula, we have:

Recovery Percentage = (25.4% / (1 - 25.4%)) * 100 = **34%**

Therefore, the portfolio needs to recover by approximately 34% to get back to even after experiencing a 25.4% drawdown.

Loss	Gain
-1%	+1%
-5%	+5%
-10%	+11%
-20%	+25%
-30%	+43%
-40%	+67%
-50%	+100%
-60%	+150%
-70%	+233%
-80%	+400%

1:1 Zone

A Loss Followed by the Same Gain
Will Not Get You Back to Even

But wait, this is only to get back to even and we want to earn 5% per annum!

If you had been earning 5% per annum before a 25.4% drawdown, then you would need to earn a return of 14% per year over the next 4 years in order to achieve a rolling 5 year return of 5%:

To calculate this annual return needed to get back to the original 5% return after a drawdown, we can take a geometric return and solve for x: 14.3%

	Year 1	Year 2	Year 3	Year 4	Year 5

$$5\% = [(1+ -.254)*(1+x)*(1+x)*(1+x)*(1+x)]^{(1/5)}] - 1$$

Very few experts can earn this high a return (14.3%) over this short of a time period unless markets are cheap. So, this math suggests the average investor should focus on minimizing drawdowns and volatility rather than chasing big returns and risking a significant drop in your portfolio value. It's crucial to consider factors like the extent of drawdowns, recovery time, and individual circumstances when evaluating investment strategies.

Back to Golf

Complacency and excessive risk taking after poor shots can put a player in a hole too deep to climb out of. The key goal is to be as disciplined and risk conscious as possible to remain consistent as you progress towards the final hole. With Jordan Spieth, the excessive risk taking and compounding of mistakes symbolizes drawdowns in the investment landscape. In investing, that means sticking to a process while focusing on risk management and capital preservation. With this, investors can avoid unnecessary setbacks, get the ball back in the fairway, and achieve more stable and sustainable returns.

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WATERLOO
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2700 Via Fortuna #100, Austin, TX 78746 • (512) 777-5900 • **www.WaterlooCap.com**

5555 Glenridge Connector, Suite 200 Atlanta, GA 30432 • (470) 552-5902 • **www.WaterlooCap.com/IWS**