

Retire A Multi-Millionaire

A Roadmap On How You Could Do It

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What can a person with minimal means (like, say \$100k) do compared to a billionaire? Should both make 10% over the next year, one will add \$10,000 to his/her account, while the billionaire will add \$10,000,000 to his fortune.

You cannot catch up. But do you need to? That should be the question.

It should make you consider if what you want is feasible.

In my previous paper¹, was shown that getting a long-term 20% CAGR (compounded annual growth rate) on a stock portfolio was not the hardest thing to do.

What was, however, was having an initial capital of sufficient size and then remaining invested for a long time, thereby gaining a long-term perspective of where you are going and how you will get there.

In **Retire A Multi-Millionaire**, we will explore methods for you to retire with the peace of mind of a person with more than sufficient funds to do whatever you please.

The Guiding Equation

The equation to estimate the expected future value of an asset is:

$$E[FV] = PV \cdot (1 + E[\bar{g}])^t \quad (1)$$

where the expected future value is determined by the expected average growth rate \bar{g} on the initial capital (PV) over a certain number of years. Any person aged 25 might look 75 years or more into the future, trying to determine the best course of action depending on their financial status and life aspirations. You could even set up a retirement fund for a newborn and give him/her up to 100⁺ years of compounding.²

¹ [Sitting On Your 'Bunnies' Might Be Your Best Investment Yet.](#)

² A child, five years or under, is estimated to have a 50% chance of reaching 100.

What is at the center of equation (1) is the initial capital put to work (*PV*). It could be a trivial quest if you do not have enough to start with, just as if the expected growth rate was minimal, something like less than 5%, for instance.

You do not build a retirement fund starting with \$10k or less. It should be considered a waste of time. Putting that money into your education or starting a small business would be better. It should prove more rewarding.

Here are some fund examples that could have come from the above-cited paper:

$$\$10,000 \cdot (1 + 0.20)^{40} = \$14,697,715$$

$$\$100,000 \cdot (1 + 0.20)^{40} = \$146,977,156$$

$$\$1,000,000 \cdot (1 + 0.20)^{40} = \$1,469,771,567$$

That is what is at stake.

Even if you started with \$10k, it might, at the limit, be acceptable. But, also likely, your available CAGR might be lower due to its smaller portfolio size: $\$10,000 \cdot (1 + 0.10)^{40} = \$4,525,926$, or maybe even worse with a lower CAGR: $\$10,000 \cdot (1 + 0.05)^{40} = \$703,999$ which has often prevailed over the last few years.³

By putting more on the table, like ten times more, you could have had ten times more.

In all three cases above, all you had to do was sit on it and wait out those 40 years. But you needed an average 20% CAGR over the period to get those results. The 100-fold difference between the top and bottom lines is due entirely to the initial capital put to work.

It should be evident that all the effort was not on generating the 20% CAGR, since it was almost given away, but on setting up your initial fund.⁴

The referenced paper made the point that the 20% CAGR should be a minimum to go for. It was shown it was easy to get and with little effort. Going beyond the 20% CAGR would require some work and know-how. Nonetheless, you should still seek those extra alpha points. Compounding over 40 years could make quite a difference.

$$\$1,000,000 \cdot (1 + 0.20 + 0.05)^{40} = \$7,523,163,845$$

That 5% of added alpha is worth its weight in gold. It is more than five times the scenario without it.

³ Apple offers 20-year bonds at 2.2%. Banks can offer low-return pension plans too (below 5%).

⁴ This was demonstrated in [Sitting On Your 'Bunnies' Might Be Your Best Investment Yet](#).

Should efforts be made to get that extra 5% alpha? That should not be difficult to answer.

Another question could be: Could you do it for ten more years?

The answer to that is easy too, add ten years to the above equation:

$$\$1,000,000 \cdot (1 + 0.20 + 0.05)^{50} = \$70,064,923,216$$

It is those added ten years that take the cake. The marvels of compounding, indeed.

Yes, it is up to you, as an individual, to make it happen.

Will you be determined enough to stick to it for 40 or 50 years? Are you ready to let it ride? Can you get that initial capital? Can you find that extra 5%?

The ride will not be as smooth as the equations above might imply. It will be erratic, if not chaotic, a real and thrilling roller coaster ride with unexpected ups and downs.

You can be assured that the future will be as chaotic as the past and will provide its share of market gyrations.

Regardless, from any final value (FV), we can be given a smoothed out growth rate equivalent in \bar{g} , which has for equation:

$$\left(\frac{FV}{PV}\right)^{1/t} - 1 = \bar{g} \quad (2)$$

Equation (2) is the result of rearranging equation (1). It will not matter so much which tortuous path was taken as long as it ends with FV and, consequently, \bar{g} .

The value of any portfolio over such long-term horizons will most likely differ for all participating in such an endeavor. You will know your overall growth rate only after reaching time t , the end of your investment period, where you will know your portfolio's final future value FV .

From the same equation, you could always know at any time t from the start of your long journey to retirement what your stock portfolio's growth rate was. You could even have it day by day if it is something you were interested in.

However, looking at equation (1), the journey might not look that promising if you do not have enough initial capital. Use equations (1) and (2) to make estimates and build "what if" scenarios to see if (\bar{g}) would appear sufficient or not. Also, appraise if you could realize that \bar{g} . There is no value in a \bar{g} you cannot fulfill.

If you want a retirement fund, then you will have to invest in something.

You cannot just save money and stick it under the mattress. It could depreciate by half in some 20 years and by another half 20 years later. Whatever the scenario, you simply do not want to lose.

You want to make sure you win this investment game.
Your retirement depends on it.

The Need For Protection

Losing 50% of your stock portfolio is not fun. And this could happen at any time in your journey to financial freedom. In the beginning, it might not sound that terrible. For example, $\$100,000 \times 0.50 = \$50,000$. You are still left with \$50,000. Anybody could recover from that. It is at the other end of the spectrum that it is more noteworthy. For instance, the following would be devastating:

$$\$1,000,000 \cdot (1 + 0.20 + 0.05)^{50} \times 0.50 = \$70,064,923,216 \times 0.50 = \$35,032,461,608$$

That is the one you would like to avoid. The problem is you do not know when that 50% drop could occur, meaning it might be unexpected or not of your doing.

Historically, say over 50 years, you could have 3 or 4 of those, and they could be costly. The further down the road they occur, the more costly they should be since your portfolio is growing exponentially during those years; see equation (1).

As suggested in the previously cited article, adding protective measures to minimize drawdowns would be a good thing. With time, you will play with higher and higher stakes as your portfolio grows. And it will be uniquely your responsibility to protect yourself from those almost unpredictable downside events.

Mr. Buffett has maintained an average 20% CAGR over his 50⁺-year career. Looking back at historical records, you will find that he is at the top and alone with such a record in the portfolio management business. No other portfolio manager has lasted as long as he has got close to his performance level. And many of his "could-have-been competitors" are no longer in business or are still trailing behind.

It should make it clear that a 20% CAGR over 40 to 50⁺ years could be quite an achievement in portfolio management. Nevertheless.

More than a few entrepreneurs have achieved higher CAGR results based on their initial investment. In most of those cases, it is the result of holding on to their company stock. These are part of a relatively small group.

According to Forbes magazine, the top 400 billionaires had a combined wealth of \$12.7T in assets as of 2020.

There are no traders in that list. Only a few are portfolio managers. And a common trait in all of them is that they are bag holders; they own major stock positions.

Some might say that the \$35,032,461,608 loss above will not happen to them since it will take 50 years before it could even happen. Well, it's factually wrong.

The very first time it happens, you lose it. Here is the math:

$$F(t) = PV \cdot \prod_1^m (1 + 0.25)^m \cdot 0.50 \cdot \prod_{m+2}^t (1 + 0.25)^{t-m+2} = PV \cdot (1 + 0.25)^{t-1} \cdot 0.50$$

where $t = 51$ years. No matter where the 50% drop occurs in those 51 years, the potential loss is \$35,032,461,608 at the end of year 51. It should incentivize your need for protective measures since those drawdowns could potentially be very costly. It is not because we ignore the 50% drops that they are not there or will not come our way.

In the above example, the first 50% drop would reduce overall CAGR to 22.72% over the period, which is still acceptable. A second 50% decline would reduce the overall portfolio further to \$17,516,230,804, which would then reduce the portfolio's CAGR to 20.67%.

You would have lost \$52,548,692,412 and reduced your CAGR from 25% to 20.67%. Not so bad, but also not so good. Still, you would be left with \$17,516,230,804 for your efforts.

We could also look at this from the other side. It would take a 2.05% increase in CAGR from 20.67% to get to 22.72% and gain that \$17,516,230,804. It emphasizes the power of compounding over extended time intervals.

You do not have to increase your CAGR by much to make a huge difference. It is why this 2.05% CAGR differential is worth pursuing. At least try to find ways to acquire it if your investing or trading strategy could have such properties. If your trading strategy could not exhibit higher CAGRs in the past, do not expect it will be able to do so in the future.

See the following articles for more information on this:

1. [Recovering After A Bear Market?](#)
2. [Portfolio Drawdown Protection](#)
3. [Surviving Market Drawdowns](#)

You must have tools and methods to recover from those drawdowns. It is not if they will happen; it is more a question of when. They are inevitable; look at historical records. And we will also have some of those in the future. But there are ways for you to either protect yourself or remedy the situation. Mr. Buffett had to go through four of those 50% drops in his career, and he recovered from all four.

Your Retirement Is A Long-Term Plan

Most do not see investing for their retirement as part of any game at all. They view it as a serious endeavor that could have dire consequences. After all, it is all about their well-being for a significant part of their lives.

Not having enough money for their retirement is a significant drawback. Primarily, they fear running out of money before they die. They have very little to risk in their quest to acquire what they expect will be their financial independence and peace of mind for the rest of their lives.

They are ready to take risks but want to ensure they will win the game. As expected, financial institutions will only offer lower returns for the lesser risks.

Of what you will see offered, you will get variations on expected growth rates \hat{g} or something like: we will do our best, see our historical returns; we should be able to do the same in the coming years. Or often this: since we invest in the S&P 500 index stocks, we expect to have about the same return as the index. After all, we are an index fund, and therefore. But, performance will be less than the index due to fees, profit participation, and distributions. I hope you want more, much more.

Say you turn to pension plan contributions to build your retirement fund. You make arrangements to deduct from your pay a specified amount every month.

However, we will look at doing the job yourself, meaning you will control your pension fund. This way, over the long-term, you could also expect to get the market's long-term average return, which is about 10%. There are advantages to managing your pension fund, some of which we will cover as we go along. Daily portfolio variations will be of little consequence since the outlook will be over the next 40 years. We will be more preoccupied with the final value of your fund than its day-to-day variations.

Pension plan contributions of \$100 per month (\$1,200 per year) might not be enough. No matter how you want to look at it, even if it is over 40 years. Nonetheless, it could be acceptable to some. At least, it is a starting point.

Your Pension Contribution Plan

We will use the example of someone starting his/her contributions at age 25

intending to retire at 65. Do the math, and see where and how you should invest.

The following table shows the pension contributions of \$100, \$500, and \$1000 per month over 40 years, where each deduction was paid an average return of 10% per year.⁵ A simple "for loop" over those 480 months could handle the calculations. You could do those calculations in any program, Excel, or other spreadsheets.

Pension Contributions - 10% Return - 40 Years

Contrib. Monthly	Return Rate	Total Contrib.	In 40 Years Total Value	Real CAGR	First Year Withdrawal	First Month Withdrawal
\$100	10%	48,000	632,407	6.66%	31,620	2,635
\$500	10%	240,000	3,162,039	6.66%	158,101	13,175
\$1000	10%	480,000	6,324,079	6.66%	316,203	26,350

Table 1: Expected First Year Withdrawal From Pension Contributions.

That type of investment method is readily available from financial institutions, but they can barely provide a 10% average CAGR on your monthly deposits. You would also have to pay management fees for their services and follow their early withdrawal policies, rules, and penalties, and in doing so, reducing your total return. Moreover, you would have contributed part of that money over the period (see Total Contributions column).

For example, let's take the \$100 for 40 years at a 10% rate: you would have contributed \$48,000 to your fund, and with the appreciation, it would have grown to \$632,407 after those 40 years. If the rate of return had averaged 5%, your total fund would have been \$152,602 (see Table #2 below).

At the 10% level, your real CAGR would have been about 6.66%.

After those 40 years, how would you repair this situation, or would you have to accept it as is? In recent years, less appealing scenarios (< 5%) have often been offered. At some financial institutions, you were barely given a few percentage points. Some even had negative rates. Low or negative rates do not build any portfolio of significance that quickly.

There is no way for the \$100 contribution case at an average 5% rate that it would or could be sufficient to sustain a single individual while in retirement for another 20, 30, or 40 years, let alone for a couple.

Say you were ready (at age 25) to put aside \$500/month for 40 years. From the above tables, that would be \$240,000 that you painstakingly plowed into your retirement account. If you had the 10% or the 5% average return on all those deposits, after

⁵ This 10% average return is a proxy for the general market average over the long term.

40 years, you could end up with either \$3,162,039 or \$763,010 in your account. It would translate to respectively \$158,101 or \$38,150 for your first year in retirement (see tables #1 and #2).

Pension Contributions - 5% Return - 40 Years

Contrib. Monthly	Return Rate	Total Contrib.	In 40 Years Total Value	Real CAGR	First Year Withdrawal	First Month Withdrawal
\$100	5%	48,000	152,602	2.93%	7,630	635
\$500	5%	240,000	763,010	2.93%	38,150	3,179
\$1000	5%	480,000	1,526,020	2.93%	76,301	6,358

Table 2: Expected Return - Pension Contributions - 40 Years - 5%.

The Big Question

Could you have done better? The answer: YES.

Suppose your rate of return was a little higher. Would it make that much of a difference?

That is simple to determine. Redo Table #1 with a 15% rate. It would give something like Table #3 below. The difficulty here is getting the 15% average return over those 40 years. But we have already covered that and have shown that it was easy to get. Therefore, it should not present an insurmountable problem since it is practically given away.⁶

Pension Contributions - 15% Return - 40 Years

Contrib. Monthly	Return Rate	Total Contrib.	In 40 Years Total Value	Real CAGR	First Year Withdrawal	First Month Withdrawal
\$100	15%	48,000	3,101,605	10.98%	155,080	12,923
\$500	15%	240,000	15,508,027	10.98%	775,401	64,616
\$1000	15%	480,000	31,016,054	10.98%	1,550,802	129,233

Table 3: Expected Return - Pension Contributions - 40 Years - 15%.

Looking at these three tables, it should seem evident that Table #3 is the better alternative. But still, you are only averaging a 10.98% tangible CAGR equivalent over the entire 40 years. And to get that, you had to contribute \$500 monthly over those 40 years (total \$240,000). Compared to tables #1 and #2, a more reasonable exchange. At least, a more desirable one.

Your first month of retirement income would be \$64,616. You went from \$3,179 for

⁶ Refer again to the above-cited paper.

your first month's payment to \$64,616, all due to the applied CAGR. Your account would now stand at \$15,508,027 (see Table #3).

If you were trying to save 5% of your paycheck for your retirement, you would need a minimum revenue of \$120,000 to do it without considering the impact of taxes or inflation.

At the 15% average return level, your portfolio would have grown to \$15,508,027 based on your \$500 contribution per month and would then provide you with a \$64,616 on your very first month in retirement. You did not contribute more to your pension plan, but you got a better average return, and to top it off, while sitting on your "bunnies".⁷

The cited article advocated that you should go for the 20% CAGR and that using the QQQ strategy with minor modifications could get you there. Doing so could produce something like Table #4, making the same contributions to your pension fund as in Tables #1, #2, and #3.

Pension Contributions - 20% Return - 40 Years

Contrib. Monthly	Return Rate	Total Contrib.	In 40 Years Total Value	Real CAGR	First Year Withdrawal	First Month Withdrawal
\$100	20%	48,000	16,738,487	15.76%	836,924	69,743
\$500	20%	240,000	83,692,439	15.76%	4,184,621	348,718
\$1000	20%	480,000	167,384,879	15.76%	8,369,243	697,436

Table 4: Expected Return - Pension Contributions - 40 Years - 20%.

Table #4 is achievable. So, why are so few achieving it? Figure (1) on QQQ, as presented in the above-cited article, illustrates the point. QQQ easily outperformed SPY since 2010, generating a 717% increase over the period or a 15.7% CAGR. Take the time to redo that chart on Yahoo! Finance, and make your observations.

You know that this 15% CAGR was easy to get. A single investment decision, and it was done (buy QQQ). All you had to do was let it ride and sit on your "bunnies".

You knew QQQ would outperform SPY from the start due to its portfolio composition. And you know that to reach the 20% mark would require a little more effort than just sitting on your "bunnies".⁸ Nonetheless, the 20% CAGR is available.

Your choices are limited, and they have consequences.

How much you contribute to your pension plan is your decision. Nobody is going to

⁷ Refer to [Sitting On Your 'Bunnies' Might Be Your Best Investment Yet.](#)

⁸ Refer to related files at the end, especially [Use QQQ - Make the Money and Keep IT](#) .

do it for you. You can get all kinds of advice, but ultimately, you must decide how to fund your retirement.



Figure 1: SPY vs QQQ - Since 2010

In my recent papers, I have stressed that the CAGR you get is also part of your choices. Which investment methods will you choose?

Which rate will you strive for? Is it the 5, 10, 15, 20% average rate or higher? Then, try to make the best of it all, persevere, and stick to it for the duration. Plan for it, and make it happen.

An Alternative Solution

From a financial institution, your contributions could appreciate at a 5 to 10% rate as in Tables #1 and #2. Few financial services will offer the 15% as in Table #3. Some 75% of money managers do not beat the long-term market average, which is often said to be around 10%. Nonetheless, some 1 in 4 do. You could be lucky and pick a good one. As for Table #4, no one is offering that, or if they do, look closely and validate your choice.

Retire A Multi-Millionaire is advocating that you build that pension fund yourself.

You could easily get Table #1. Buying SPY could do the trick. It is a proxy for the long-term market average, and it should be able to generate that 10% CAGR. You could get Table #3 easily as well. You buy QQQ and wait. Since 2010, it averaged a 15.7% CAGR. You should have no interest in Table #2. It is not enough. As for Table #4, you will have some work to do. It is also reachable.

Are there other ways of doing it? That is the purpose of this paper: showing you that other methods can help you achieve your goal. The idea is, for starters, to exceed

Table #1 with its 10% CAGR and go for Table #3 with its 15% CAGR. At least, your \$500 contributions over those 40 years could grow to \$15,508,027.

Say you agreed to pay that \$500 per month to your retirement account (that is \$6,000 per year), and your contribution is the same as in Table #2, earning on average 5% per year. It means that over the 40-year interval, you will have supplied \$240,000, and your contributions would be valued at \$763,010, giving you, on the first year in retirement, based on a 5% withdrawal rate, about \$38,150 for the first year or \$3,179 as retirement income for your first month.

You know your cost, the rate of return, and the number of years, and you can determine what you will get in 40 years. It is a reasonable estimate. But that \$3,179 per month will be after reaching that 40-year threshold. Your buying power will have decreased by then.⁹

You could change the previous scenario a bit.

You still agree to pay \$500 per month, but instead of contributing to your retirement account, you repay a loan you took. The loan proceeds are to be invested to get a higher return.

For example, a payment of \$491.51 per month can get you a \$100,000 loan with a 5.2% interest rate to be repaid over the next 40 years.¹⁰ The total sum of all payments would be \$237,848. Close to the \$240k paid out in the \$500 contribution scenario.

In both cases, you contributed about \$240k, which was invested into your future well-being. Both methods cost you about the same. Both required a monthly payment of \$500 or so.

The proceeds from your \$100,000 loan are now invested in QQQ for 40 years with an average growth rate of 15% over the period. You would get:

$$FV = \$100,000 \cdot (1 + 0.15)^{40} = \$26,786,354$$

with a first year withdrawal payout of \$1,339,317 or \$111,609 in your first month.

In both cases, you paid out about \$500 a month for 40 years. That is a commitment requiring perseverance. Nonetheless, both scenarios are possible. The difference is in the method to pay it out, as monthly contributions or loan repayments.

If you made \$500 contributions to your retirement fund, you could repay a loan with payments of \$491.51 per month.

Due to your loan, you would now be collecting \$111,609 for the first month of your

⁹ See figure #3 in [Self-Managed Retirement Funds](#) as an example over last 23 years.

¹⁰ The 5.2% was to get the repayment below \$500 per month. Some lenders would accept less.

first year in retirement compared to the previous scenario, where you had \$3,179 for the first month. You would get 35 times more as a result of a single decision.

Both investment methods had the same objective: building your retirement fund. And it is a choice you can make.

In the QQQ scenario, it is like having the equivalent of your first 200 contributions¹¹ operating from the start at an average 15% CAGR.

This simple trick will put \$10⁺ million into your retirement account with no added effort than paying out your debt. Note that QQQ could serve as collateral for this loan, making it more secure for the lender. QQQ is a tangible asset that can be converted to money whenever you choose. It is why it can serve as collateral for a loan (QQQ is money).

You could start with the same loan but put it into an improved QQQ strategy where you would get an average 20% CAGR over those 40 years. It would result in a portfolio valued at \$146,977,156 with a first-year withdrawal of \$7,348,857, or \$612,404 on your first month as a retiree.

Your search should be for that loan or something close to it. The 15% or 20% growth rate is relatively easy to get.¹²

Higher Interest Rates

Say you accept the idea of such a loan, but the interest rate is 7.5% instead of 5.2%. What would be the outcome?

First, monthly payments would increase to \$621.43. In total, you will pay out \$298,287 in contributions instead of \$240,000 over those 40 years. It is not that big of a difference. It is still the outcome that is of interest.

The outcome, depending on the 15% or the 20% rate, would be the same as previously calculated. The only thing that would have changed is the size of the loan repayments. Can you afford the increase from \$491.51 per month to \$621.43, an increase in monthly payments of \$149.72 or \$4.92 per day?

You can choose which methods you will use to get the 15% or the 20% average growth rate on your portfolio over those 40 years. The 15% CAGR is readily available (buy QQQ with the \$100k); refer again to figure (1).

Start thinking about it. You could do even better, especially the part about the

¹¹ Equivalent to the first 16.6 years of contributions.

¹² Refer to my recent writings on this. Some are listed at the end of this paper.

15% or the 20% CAGR. Ultimately, it is your choice, your determination, and your perseverance that will matter.

But you could go even further!

Say you started with an initial capital of \$100k to which you added your \$100k loan, which you would pay back at \$621.43 per month (7.5% interest) over those 40 years. Using Table #4 as a starting point, we would have:

Initial Capital: \$100k + Loan \$100k - 20% Return

Contrib. Monthly	% Rate	Total Contrib.	In 40 Years Total Value	Real CAGR	First Year Withdrawal	First Month Withdrawal
\$100	20%	148,000	295,813,287	20.92%	14,790,664	1,232,555
\$500	20%	340,000	362,767,239	19.04%	18,138,361	1,511,530
\$1000	20%	580,000	446,459,678	18.07%	22,322,983	1,860,248

Table 5: Expected Return - 20% - \$100k Initial Capital - \$100k Loan - 40 Years.

Compare Table #5 to Table #4. Your first-month withdrawal would be \$1,511,530 compared to \$348,718 in Table #4. You would get \$18,138,361 in your first year of retirement compared to \$4,184,621 as in Table #4.

You could be more creative in your investment methods to raise your average CAGR or increase your initial stake.

Your loan is easier to collateralize in this scenario since it represents only half of your initial portfolio.

Regardless, it remains a choice you have to make.

The way it works is that you front-loaded close to half of your monthly contributions. It might cost you \$58,287 more on that loan over those 40 years, but the reward more than compensates for it. That \$58,287 added \$13,953,740 to your first-year withdrawal. It would provide even more year after year since your monthly income is compounding. It raised your first month's income from \$64,616 to \$1,511,530.

All this was designed for the individual aged 25 set to retire at 65. And according to Table #5, he/she should have more than enough to enjoy their retirement without any consideration from anyone else. They could do it all themselves. Their retirement account would be valued at \$362,767,239 at age 65!

Notwithstanding, you should also consider the impact of adding ten more years to Table #5. I've done the calculations for you; see Table #6 below.

Initial Capital: \$100k + Loan \$100k - 20% Return - 50 Years

Contrib. Monthly	% Rate	Total Contrib.	In 50 Years Total Value	Real CAGR	First Year Withdrawal	First Month Withdrawal
\$100	20%	148,000	2,150,084,011	20.93%	107,504,200	8,958,683
\$500	20%	340,000	2,636,872,843	19.22%	131,843,642	10,986,970
\$1000	20%	580,000	3,245,358,884	18.39%	162,267,944	13,522,328

Table 6: Expected Return - 20% - \$100k Initial Capital - \$100k Loan - 50 Years.

The added ten years had a significant impact on your portfolio. The loan was still over 40 years, totaling the same amount as in Table #4. Yet, you stayed with relatively common stuff. A 20% CAGR is within reach and relatively easy to get.

Note that from Table #5, having reached retirement age, you would start withdrawing an income stream. Anybody could survive on a starting income of \$1,511,530 per month.

Also, because of the withdrawal rate differential with the portfolio's CAGR, your monthly income stream would increase at an average 15% rate per year no matter how long you lived. With the added ten years, your portfolio at age 75 would be valued at \$2,636,872,843. It would be less since you would have started withdrawing \$1,511,530 from that fund at age 65 and now at age 75 could dispose of \$131,843,642 for the year.

You are the one reaping all the benefits. So, go for it. Make the commitment to your future self. Take the steps needed to secure that 20⁺% CAGR. Every alpha point you get will count in that portfolio-compounding universe of yours.

If you have more initial capital or could contribute more to your pension fund, do consider it also. Even though it might initially appear as high, the impact of a \$1,000 per month contribution is not that high in retrospect. It only represents putting aside \$12,000 per year. And if you already have millions, putting a million in Table #6 as your starting capital would increase overall performance close to tenfold. Calculations give your first month's income to be \$12,325,553 compared to the first month in Table #5, where you had \$1,511,530.

You will have more than bought your financial independence and financial freedom. You will have bought your peace of mind. Furthermore, you did not have to wait until you reached 65 to profit from your portfolio. Even after 20 years, you could start extracting some benefits.

Starting to extract your monthly income after the first 20 years is also a choice you can make. With a 5% withdrawal rate, your portfolio would continue to grow at a 15% pace and thereby, year over year, increase your monthly withdrawals. The impact

would be a reduced overall CAGR, going from an average of 20% to 15% over the following years.

Initial Capital: \$100k + Loan \$100k - 20% Return - 20 Years

Contrib. Monthly	Return Rate	Total Contrib.	In 20 Years Total Value	Real CAGR	First Year Withdrawal	First Month Withdrawal
\$100	20%	124,000	5,593,718	20.98%	279,685	23,307
\$500	20%	220,000	6,837,578	18.74%	341,878	28,489
\$1000	20%	340,000	8,392,404	17.38%	419,620	34,968

Table 7: Expected Return - 20% - \$100k Initial Capital - \$100k Loan - 20 Years.

Such a scenario could be adopted by someone aged 45 wishing to retire at 65. It is up to you to adapt your strategy to what you want to happen. You are in control of it all, including your CAGR.

You could also start small and gradually increase your monthly contributions. Starting at \$100 per month for a few years, then slowly graduating to \$500 per month. And when you would be more fortunate, play catch up with \$1,000 or more per month. Again, these are all choices you have to make. Your scenario is most likely different from anyone else. You get a raise. Put a fraction of it into your retirement account. The same goes if you get a bonus. Put some of it away.

But you still need to build that retirement fund, no matter what.

Doing it yourself leaves your retirement fund totally under your control. You will not be charged any fees or penalties for whatever reason. It is your portfolio, your retirement fund.

Furthermore, you could change your investment strategy as you go along. You could start with the QQQ strategy to get your initial 15% CAGR, and once you find something better, transition to the new one or operate both in parallel. You could do whatever you like since it will all be under your management. Again, it is your retirement fund.

You can also find someone who could do it all for you. Maybe a way to get that 20%+ CAGR. It remains your choice as to how you will manage your fund.

Now that you have the methods, you can get that 15% or 20% CAGR, and you can borrow your portfolio contribution and pay about the same price. You are left with little reasons not to do it. Do not reach 65 and say I should have done this or that. You know you should have.

It always comes down to your choices and what you want to do.

Regardless!

Now You Know How To Retire Rich

You have to build that retirement fund yourself. Nobody else might be able to do it better than you. Well, some could. You could do a pretty good job and keep control of your retirement fund even after you retire. There are benefits to that, most of them, if not all, to your advantage.

You can build your retirement fund while supporting the economic prosperity of everyone. It creates jobs, dampens economic cycles, and generally raises the standard of living.

Oddly enough, you can do it all by following your own self-interests.

The desire for a better life for yourself and your loved ones could be sufficient to change the world. There would be no need to take arms, cheat, or hurt anyone. On the contrary, you should be there to help them the best you can, if you can, and if you want. You have no obligation here. You are free to decide what you want to do and how.

Taking care of a single objective, your own self-interests, could lead to gradually gaining control of the planet. It is elementary: you are not alone.

You are part of the largest group: the middle class, ordinary people. You do not control anything except yourself. But you could be part of a vast and eclectic group of people with the same goals. With no cohesion, no master, and no governing body.

All over the planet, we have wars, genocides, and crime, with people dying for no other reason than someone wanting the other's possessions. It may be time to make a change. It will not be overnight. It could take decades. And if so, there are a lot of things that will happen during all that time over which we have no control.

It was shown above that you do not need that much to make your retirement richly rewarding and enjoyable.

And you did not need to harm anyone to reach your objective.

On the contrary, your investment would have generally supported the economy. Indirectly, you would have been buying shares of the most valuable companies on NASDAQ, supporting their employees, expansion, and ecosystems.

Your bet on America would be paying off.

You could do all this alongside a lot of other people doing the same thing.

You are not alone. And that could make quite a difference.

As part of the nonmillionaires group, you could redesign the economic and geopolitical landscape and become the equivalent of a benevolent future superpower. Maybe a more democratic view of the world. And, then again, depending on the major players in your group, perhaps the worst possible scenario.

My paper: [The Age Of The Individual Investor](#), made the case that over the next 50 years, the nonmillionaires could acquire most of the wealth of the planet due to their sheer numbers. For example, a single individual, using the \$500 loan repayment scheme on the \$100,000 loan invested in QQQ, could generate, at the 15% rate, over the next 50 years:

$$\$100,000 \cdot (1 + 0.15)^{50} = \$108,365,744$$

While at the 20% rate, a portfolio could grow to

$$\$100,000 \cdot (1 + 0.20)^{50} = \$910,043,815$$

Even though impressive for an individual, it is nothing compared to the estimated value of total assets worldwide in 50 years from now.

You could accelerate the process by using the outcome of Table #6 where a \$100k initial capital was added to the mix:

$$\$200,000 \cdot (1 + 0.15)^{50} = \$216,731,488$$

While at the 20% rate, his/her portfolio could grow to

$$\$200,000 \cdot (1 + 0.20)^{50} = \$1,820,087,630$$

All starting with the equivalent of a \$621.43 contribution per month to your retirement fund over 40 years.

Current worldwide wealth estimates are around \$750T. These assets are expected to grow, on average, at a 2.5% rate.¹³

But, for this discussion, we will make it increase at a 5% rate, making it even harder for any group to catch up as if the target was moving away faster. It would make worldwide total wealth exceed \$8,500T in 50 years.¹⁴

Taking the 20% CAGR scenario, some 10,000,000¹⁵ individuals executing this plan could generate over the next 50 years:

$$10,000,000 \cdot \$100,000 \cdot (1 + 0.20)^{50} = \$9,100T$$

¹³ It has been the average over the past 60 years.

¹⁴ Refer to [The Age Of The Individual Investor](#) for a more detailed account.

¹⁵ Actually, it could be done with 960,000 individuals at a 20% CAGR.

while the 15% rate would require some 80,000,000 individual accounts to do about the same job:

$$80,000,000 \cdot \$100,000 \cdot (1 + 0.15)^{50} = \$8,669T$$

Could you have 80,000,000 people undertaking such a project knowing that it would take some 50 years to reach their goal? Knowingly or not, they could do it. Even with the 20% CAGR case, you would need some 10 million people dedicated to a single task: the betterment of their respective retirement fund, which everyone agrees is something they need to do.

Is this possible, without a concerted effort, where each individual would be acting in his/her own self-interest? My answer is a resounding YES. And there are many reasons for that.

There are presently over 10,000,000 millionaires in the US alone. And out of those, you could find a few million individuals ready to put aside \$100,000+ toward this endeavor. First, it would be to their benefit anyway, as previously stated. It would also be managed and controlled by themselves and for themselves.

Some would not need to take a loan to achieve this objective. They could be almost passive closet indexers in QQQ if they wanted to. From that group, some could put more than \$100k to work.

For example, 1,000,000 of those millionaires could do the job:

$$1,000,000 \cdot \$1,000,000 \cdot (1 + 0.20)^{50} = \$9,100T$$

and they could acquire all the world's assets over the next 50 years.

The thing is, they are already doing it. They are on their way.

It is not just 1,000,000 of them. It is most of them are already enriching themselves, like everybody else.

Can something like this happen? Already, everything is moving in that direction. Hundreds of millions of people are already doing it, building their retirement funds the best they can.

In some 50 years, all the wealth will end up in a few hands. Perhaps, in the hands of less than 1,000,000 people who could own the world.

At an average growth rate of 2%, the world population could grow to over 20 billion people by 2070. However, the present population growth rate is a little less than 1%, which would make the estimated 2070 population closer to 13 billion people. Some "gurus" want a slower growth rate and estimate 8 billion people after growth tappers off by 2060.¹⁶

¹⁶ Population growth was about 2% in the 1970s. It has been slowly in decline ever since.

But I do not set that as in the best interests of everyone. Imagine no population growth. It leads to no need to build anything except to replace what is getting old or broken. No need for more food production or shelter. No need to increase energy production. No need to build more roads or houses.

No matter how many people there are, 1,000 billionaires and maybe even less could rule us all. There is not much you could do about it except that, even with lesser means, you could adhere to a common cause: a better wealth distribution. But we would need millions of you to do it.

Figure (2) shows combinations of accounts and initial account sizes producing the same outcome, either at the 15% or 20% CAGR level over 50 years. You can increase the average CAGR beyond 20%, reducing the time interval needed to reach the same goal. You could also change time for growth rate. For instance, at the 15% rate, it would take 65.3 years to exceed the level reached by the 20% CAGR over 50 years.

Expected Outcomes (50 Years)			Target (50 Years) → 8,500,000,000,000			
Number of Accounts	Initial Stake (\$)	Invested Amount	Factor 15.00%	Value After 50 Years	Factor 20.00%	Value After 50 Years
			Growth Rate		Growth Rate	
100,000,000	10,000	1,000,000,000,000	1,083.66	1,083,657,441,583,950	9,100.44	9,100,438,150,002,140
10,000,000	100,000	1,000,000,000,000	1,083.66	1,083,657,441,583,950	9,100.44	9,100,438,150,002,140
1,000,000	1,000,000	1,000,000,000,000	1,083.66	1,083,657,441,583,950	9,100.44	9,100,438,150,002,140
100,000	10,000,000	1,000,000,000,000	1,083.66	1,083,657,441,583,950	9,100.44	9,100,438,150,002,140
10,000	100,000,000	1,000,000,000,000	1,083.66	1,083,657,441,583,950	9,100.44	9,100,438,150,002,140
1,000	1,000,000,000	1,000,000,000,000	1,083.66	1,083,657,441,583,950	9,100.44	9,100,438,150,002,140
100	10,000,000,000	1,000,000,000,000	1,083.66	1,083,657,441,583,950	9,100.44	9,100,438,150,002,140

Figure 2: Portfolio Estimates - 50 Years

Should you double the initial stake (\$100k initial capital + \$100k loan), figure (2) would require half as many people to do the same job.

What is proposed here is for you to participate in this monumental wealth transfer. Suppose you do not for some reason, too bad. But you will not stop history in the making. You are too small.

However, if enough of you could take notice and decide to do something about it, you now know how it could be done.

It will be to your advantage and for the benefit of your loved ones and those you will leave behind.

Should we plan for what might be 50 years from now? Well, yes. Depending on your age, you might still be there, as might your children. You become responsible for the world you will leave them.

This is wild:

*We will contribute to the planet's well-being
by taking care of our self-interests.*

As presented in **Sitting On Your 'Bunnies' Might Be Your Best Investment Yet**, if a million people start building their retirement fund, they could all retire wealthier and well-prepared for their retirement.

It would also have the advantage of having a large group of people buying back their country since most of their investments will be in the best companies in their respective countries. They could also, with time, acquire most of the real estate out there. They would gradually consolidate their position while participating in their own well-being.

With time, the QQQ strategy will need to be expanded. But that was already covered some months ago when it was proposed to use the 100 stocks part of QQQ and trade those. Then, later, expand again to include the 500 stocks part of the S&P 500. You could include more and more stocks as the need to grow grows. Having a common cause could enrich everyone participating.

You will do good for yourself and your loved ones. At the same time, you might be part of those wishing for an end to wars, detention centers, and killing people. No matter how you look at it, you are needed, desperately needed. Do build that retirement portfolio, protect yourself, and change the world.

What Happens Once You Retire

You spent some 40 years accumulating wealth as everyone around you.

You executed Tables #3, #4, or #5 and find yourself with sufficient funds to retire. You found Tables #5 and #6 enticing and wondered if you could do those instead.

Table #5 should be your best choice, depending on your means, but Table #4 could also do the job. The difference is only that \$100k in initial capital. It had quite an impact. Some could do even better.

Instead of receiving \$348,718 (see Table #4) in your first month of retirement (with more of the same to follow), you could have \$1,511,530 based on Table #5.

You have to choose which method you will use from the start as the clock is ticking. There is no reset button to this thing. No let's restart from the beginning again. You do not get to be 25 again.

The Annuity Dilemma

Once having reached retirement age, a pension plan is usually converted into an annuity, which will dish out equal payments according to the terms and conditions of its contract.

The monthly amount will be constant for the duration of the agreement, some with a clause for as long as you live, but not all, while some have termination dates. The rate of return at which your funds are held is usually also relatively low. You entered into a contract, and the other side meets its obligations. That's great. They should respect their agreements. But why is it that their rate of return is so low when they will be investing in the same stocks you would on your own?

Financial institutions have rules and regulations to control their operations, and you have to comply. You might have little say in the matter. It is explicit in your contract. Some of those rules might force you to cash in a fixed amount of your fund starting at a certain age when it might not be convenient for you (tax-wise, for instance).

Having chosen to self-manage your fund for 40 years, you could do whatever you wanted. It was all your money, after all. You should be the person to decide how it will be managed, how much you will extract, and when. You do not need a reason to do that. No one can force you to cash out due to some restrictions.

The self-management of your fund leaves you in total control. A significant benefit of doing so is finding your portfolio still able to grow at about the same average rate you have had over the past 40 years. You are getting a continuation of your fund, which can grow exponentially. At a lesser rate, mind you, mainly due to the withdrawals, but still more than worthwhile. This retirement portfolio has interesting side effects, at least for you.

Both Tables #4 and #5 were based on a 20% CAGR, and both could continue to grow at the same long-term average rate. You had 40 years to practice your portfolio management skills and develop better investment methods. So, doing the same for 10, 20, 30, or 40+ years more should not be a problem. You could always delegate the task to someone else.

Note that you could have chosen the 15% CAGR, netting less (10% due to the 5% withdrawals), thereby achieving less, but with no work at all since the QQQ strategy required only one decision, and that was to buy QQQ to then wait until you retired (average QQQ CAGR over last 13 years: 15.7%).

Nonetheless, I will stay with the 20% CAGR case, including the added 5% alpha points your investment skills or program generated.

You are now retired and want to extract a steady income stream of significance from

your pension fund. You enter the retirement phase.

After Retirement Phase

You retire and enter your retirement phase, and what happens while in retirement is now your concern. It builds on an expansion to equation (1):

$$FV = PV \cdot (1 + \bar{g})^{40} \cdot (1 + \bar{g} - 0.05)^{t-65} \quad (3)$$

where 5% per year is withdrawn from the fund for the years after age 65 ($t > 65$). So, if you live to be 95 years old, the second phase can last 30 years.

Why be so explicit in expressing that you will have a termination date? It is to make you realize that you have reached retirement and should enjoy every minute while you are still there. You will have the money, so do enjoy your retirement.

Equation (3) is simple and significant.¹⁷ It chains equation (1) to what happens after, meaning while in retirement. Your retirement fund's outcome at age 65 serves as initial capital to what will follow, where t will determine how long it will last.

You could chain multiple phases in this way too.

$$FV = PV \cdot (1 + \bar{g})^{40} \cdot (1 + \bar{g})^{y-65} \cdot (1 + \bar{g} - 0.05)^{t-y-65} \quad (4)$$

where $y > 65$ and $t > y + 65$. This equation means you could change strategies en route and continue managing your new portfolio from where you transitioned with no problem. The reason for a transition could be to adapt to a new and more productive program, which should raise your average return \bar{g} .

Extending the time interval of your portfolio does not smooth out your portfolio growth. It will continue to be erratic, likely with a high dose of randomness.

But you will still be making your bet on America, and things will average out over time, meaning that \bar{g} will still have the same meaning. You are betting on the idea that there will be in 50+ years from now a list of 100 companies that will be the most valuable. You do not know who will be on the list, but you know there will be such a list. And that is your basic protection, the why you will succeed.

So, the big question is: How much will you dispose of?

The 40-year total value for the \$500 monthly contribution case of Table #4 is fed as initial capital to Table #8 and made to follow equation (3). That is, the \$83,692,439 that you reached at age 65 becomes the initial capital to the next phase.

¹⁷ This equation was presented in [Self-Managed Retirement Funds](#).

Once Retired: 15% Return - 5% Withdrawal

Age	Growth Rate	Init. Fund Value	Value 10 Years Later	First Year Withdrawal	First Month Withdrawal
65	15%	83,692,439	371,612,274	4,184,621	348,718
75	15%	371,612,274	1,650,037,735	18,580,613	1,548,384
85	15%	1,650,037,735	7,326,519,379	82,501,886	6,875,157
95	15%	7,326,519,379	32,531,308,268	366,325,968	30,527,164

Table 8: Expected Return: 15% - Withdrawals: 5%.

Your portfolio over the next ten years, from 65 to 75, will grow at a rate $\bar{g} - 0.05$ to generate \$371,612,274. This sum is fed to the next phase from 75 to 85, and so on, each 10-year period having the numbers in Table #8.

Could we say that Table #8 far exceeds your needs? You started your retirement fund at age 25 with a borrowed \$100k that you paid back (\$621.43 per month). That was \$20.42 per day.

You end up at age 65 with a withdrawal of \$348,718 on your first month of retirement. Your retirement account stands at \$83,692,439 and would continue to grow at a 15% rate. By age 75, you will have reached \$371,612,274 in portfolio value.

Each month, your retirement income would grow to such an extent that ten years later, at age 75, your first-month withdrawal would be \$1,548,384. You would dispose of \$18,580,613 for the year.

By age 85, your monthly income would start at \$6,875,157 and would continue to increase month by month. At age 85, you would have \$82,501,886 to spend that year on whatever you wanted.

Table #8 did not consider an initial capital as in Table #5. The power of compounding would get even more evident. To Table #8, I added \$100k as initial capital starting at age 25 with the \$621.43 per month loan payments.¹⁸ It produced Table #9 below.

You look at those numbers in bewilderment as if they were incredible, but based on the portfolio's return rate, initial conditions, and the withdrawal rate, it is what it should be.

It is all following equation (3) where $\bar{g} = 0.20$. And since you are extracting 5% per year, the effective applied rate is 15% return while in retirement. Those numbers would be even higher if you did not make the 5% withdrawals. Those withdrawals would still be part of the fund and continue to compound. However, those 5% annual

¹⁸ At a 7.5% interest rate.

withdrawal is why you built your retirement portfolio this way in the first place.

Once Retired: 15% Return - Init. Cap: \$100k - 5% Withdrawal

Age	Growth Rate	Init. Fund Value	Value 10 Years Later	First Year Withdrawal	First Month Withdrawal
65	15%	362,767,239	1,610,763,893	18,138,361	1,511,530
75	15%	1,610,763,893	7,152,135,146	80,538,194	6,711,516
85	15%	7,152,135,146	31,757,005,090	357,606,757	29,800,563
95	15%	31,757,005,090	141,007,874,112	1,587,850,254	132,320,854

Table 9: Expected Return: 15% - Init. Capital: \$100k - Withdrawals: 5%.

So, you die old and rich. I hope you enjoyed the ride.

Note that you only had very little to do. That was to provide an added 5% alpha points to the QQQ strategy, which was giving you a free long-term 15% with little worry. Yes, you had to provide the initial \$100k as in Table #9 and contribute monthly \$621.43 for the first 40 years. But was it that hard?

Retire A Multi-Millionaire should serve as a roadmap, a blueprint for your self-managed retirement portfolio. You will have two periods to worry about. Up to retirement age, the first phase goes by equation (1), where you must find a higher growth rate than the market's average and sufficient initial capital to make it worthwhile. The second phase, starting at retirement age, is to adhere to equation (4) and continue doing what you did.

You are not limited to stocks in building your retirement fund. What is essential in equation (1) is the achieved average growth rate \bar{g} . That can come from a variety of assets. Your job is to plan for where you want to go and then find and use the tools to achieve your goals.

Millions and millions of people could do the QQQ strategy, where they would outperform the long-term historical market average with a single ETF, a single decision. You will have to do a little more if you want more. That sounds reasonable.

Don't let this happen: "You will own nothing and be happy!" - Klaus Schwab - WEF.

Guy R. Fleury

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