

There Is Always A Better Retirement Fund - Part II

by: Guy R. Fleury

In this article, I will elaborate on building your retirement fund using a stock trading strategy. One part is up to retirement, and the other for after you retire. I aim to show that you can do it yourself and easily outperform market averages.

My last article, [There Is Always A Better Retirement Fund](#), covered the required growth rate needed to achieve a \$50 million or a \$100 million retirement fund based on the number of years before age 65 and available initial capital. It was also shown that a small added percentage to the CAGR, when applied early, could increase the outcome considerably, for instance, doubling the outcome.

It was all based on the future value formula: $FV = PV \cdot (1 + r)^t$, which has existed for centuries. So, there was nothing new there. What was remarkable, however, was that a 25-year-old, starting with \$100k, which could be borrowed, could double his or her portfolio to \$100 million dollars before retiring at 65 by adding 2.04% to the shown CAGR in Table #1, going from 16.81% to 18.85%. Only a 2.04% CAGR increase was enough to make the added \$50 million dollars simply because it was given time.

Presently, in **Part II**, I want to deal with the following equation, which was also presented in the last article:

$$F(t) = [F_0 \cdot (1 + \bar{g})^t] \cdot [(1 + \hat{g} - \hat{w})^\tau] \quad (1)$$

It might look complicated, but it is nonetheless simple.

It is the same future value formula as above but in two parts. We have a simple separation before and after a particular event, whatever it might be. I will take the retirement age t as the separation point for this presentation.

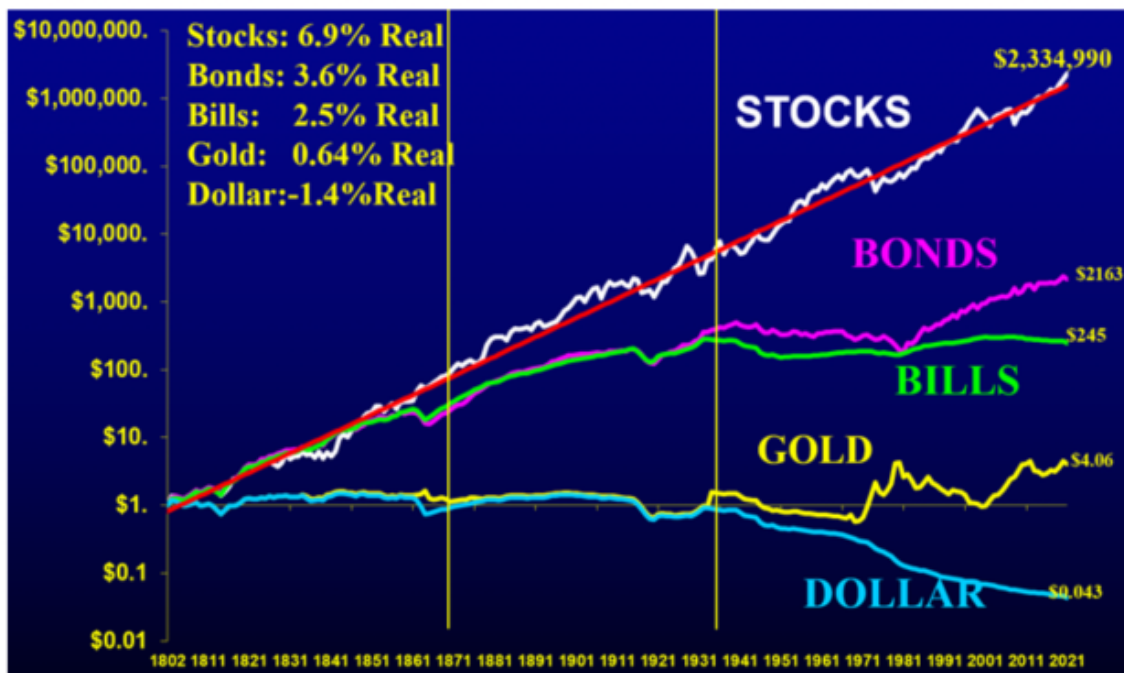
We have \bar{g} , the portfolio's average growth rate, and \hat{g} , the estimated growth rate while in retirement, which could be close to the growth rate \bar{g} before retirement: ($\hat{g} \rightarrow \bar{g}$) since the same trading strategy would apply. While retired, the estimated withdrawal rate \hat{w} will be 5% of the appreciating fund.

The stock market does not behave as smoothly as the above formula. It is chaotic, erratic, with a high degree of randomness. To a point where even \hat{g} is a "might be" estimate and certainly an uncertainty.

It is only knowable when you get closer to the end of the period τ , where it will eventually become \bar{g} . You look back at any period in the US stock market and could always extract \bar{g} as its average growth rate. You rearrange the future value formula

to give: $\left[\frac{F(t)}{F_0} \right]^{\frac{1}{t}} - 1 = \bar{g}$, and it will smooth out all the ups and downs of any price series as in Figure #1 below.

Figure 1: Total Return 1802 - 2021



It will not matter much which path was taken to reach the final destination $F(t)$ as long as you get there and, in doing so, will have settled the overall average growth rate to \bar{g} , whatever the nature of your portfolio. Therefore, what you want between F_0 and $F(t)$ are profitable trading opportunities, whatever they may be.

In the market, you make profits and losses on price changes. The outcome depends on the profits and losses of every trade x_i you make, up to N : $F(t) = F_0 + \sum_1^N x_i$.

You are not asking for a smooth ride but for the final result $F(t)$.

You have to find ways to make the outcome as big as you like or as big as you can, even if the ride could be bumpy, as illustrated in Figure #1. A compounding return is a straight line on a log scale, as shown in the chart above. As we can observe, that one lasted for over 200 years. What do you think that regression line will do in the future?

We could argue that we are trading that straight line or that the trading methods we use will average out to that regression line, and, as such, the market gyrations over the long term were just anecdotal. All you wanted was the outcome: $F(t)$.

Trading over the long term should average close to trading the regression line. On a

log scale, the future value formula $F(t) = F_0 \cdot (1 + \bar{g})^t$ is the regression line as in Figure #1, and as such, it is a relatively good approximation of the long-term outcome.

We could express that straight line as a Geometric Brownian Motion (GBM) function: $F(t) = \mu dt + \sigma dB$, and again, μdt would be the same regression line as in Figure #1. There would be a residual: σdB , but you would not be able to predict it, just like you could not using other methods. The further out your "residual prediction", the more it will represent a pure bet, a 50/50 thing since $\sigma dB \rightarrow 0$, and is randomly distributed.

However, predicting μdt is much easier. Just look at Figure #1 and extend that regression line. You have over 200 years of data to back you up.

We could use the above two-part equation and put in some numbers. Someone starting with \$100k in 1990 bought the market average and retired in 2015. We would have a present portfolio valued at

$$F(34) = [\$100,000 \cdot (1 + 0.069)^{25}] \cdot (1 + 0.069 - 0.05)^9 = \$628,073$$

It would have taken 34 years to get there. The 5% withdrawal is a \$2,617 monthly income for the current year. The withdrawals would increase at a rate of 1.9% per year, almost covering inflation, but still not enough. Can I say: you could do a lot better than that.

Let's consider someone starting now under the same conditions.

The average market return is relatively easy to determine; it will be the same as in the last 200 years. So, after 35 years, you reach the same goal. But this does not account for inflation. You currently need \$5,000 per month for your living expenses, at an average 3% inflation rate, you will need in 35 years: $\$5,000 \cdot (1 + 0.03)^{35} = \$14,069$ per month to get by with the same lifestyle as you have now. Following the long-term market average became inadequate. The bad news is that about 75% of money managers do not do more than the long-term market average. It is more reasons for you to take charge.

Consider the following: you manage to raise the growth rate to 30%, it would give:

$$F(t) = [\$100,000 \cdot (1 + 0.30)^{25}] \cdot (1 + 0.30 - 0.05)^{10} = \$657,179,394$$

Here the 5% withdrawal would give a starting monthly income of \$2,738,247, more than enough to pay for the beer.

Moreover, the income stream from this strategy would grow at a 25% rate. It is far exceeding any annuity contract you could buy. It has never been as rewarding to do it all yourself.

That is the backdrop of whatever trading philosophy you want to adhere to. Are you ready to make that long-term bet, that long-term commitment?

We could extend that regression line in Figure #1 for an estimate of where the market is going over the next 30 to 40 years and might get pretty close to what "might" happen even though we do not know and cannot have any assurance that it will happen. However, it is a reasonable assumption. You can do better using your trading methods to increase your overall CAGR.

We must look at the future as if we will continue to be part of it; therefore, we should prepare for it.

How Are You Going To Do This?

That is the big question. Everyone will say: get a financial adviser. I say: NO, DO IT YOURSELF, you can. You have enough skills, know-how, and determination.

Knowing you will succeed, you can acquire the patience and perseverance to hold a steady course of action. Your main ingredients will be the conviction in yourself and your skills. Your highest prized skill will be your ability to wait for years and years. And anyone can acquire the ability to do that.

Therefore, your first bet should be in yourself and in your ability to get the information needed so you can trust your judgment and know-how. Whatever the investment methods you follow, you better have confidence in yourself to carry them out and at a profit.

The second bet will be on your future. You not only bet you will be there but also bet you will prosper in that chaotic and erratic financial environment where anticipating the future is just a tiny part of your work. You need to anticipate what will come your way and find methods to profit from it.

No matter how the market behaves, you can benefit from it with some knowledge and determination to carry out your investment plan, whether in stocks, real estate, or whatever. Figure #1 should be a guiding light.

I specialize in long-term stock trading strategies, and because of that, I look 10, 20, and 30+ years in the future. Asking questions like: What is the long-term expectancy? All we have to do is look at the past over the long term to see what happened and ask: will it continue to do what it did in the past? Humanity has been around for quite a while. We should learn some lessons from history.

The future remains uncertain. We all agree on that. The 30 highest-valued stocks in 2000 were gradually replaced by 29 newcomers by 2020. Their overall value was multiplied by at least a factor of ten. That is roughly a 12.2% growth rate over the period, close to the historical average. There are currently 6 US companies valued at more than \$1 trillion dollars, something no one talked about in 2000. Those six companies were not among the top 30 highest-valued stocks in 2000. We have to

deal with the information available at the time, just like we have to make decisions with the currently available data.

However, there are exceptions to this. And they are in long-term averages. You already know the stock market has been going up on average. It has been doing so for over 200 years.

What do you think will happen over the next 20 or 30 years? You might not be able to predict what a stock will do over the next 20 years, but we know the market average will rise.

Therefore, your task is to find ways of improving on the long-term market average.

Figure #1 gives the overall market average over the past 220 years. To increase its CAGR, we could, for example, be more selective. You are playing a CAGR game. No matter how you want to describe what you will be doing, it will remain a bet on the future. Is the price of what you are investing in going up or down? And more, at what rate? It will become increasingly important in short-term trading, as illustrated in the last few articles.

Technically, you are playing the straight line (the market's average regression line) in Figure #1.

*Your choices are all centered on finding ways to
increase the slope of that line.
And that is \bar{g} .*

Over the long term, your trading activity will generate helpful averages. As the number of trades increases, you will always be able to know $\frac{F(t)}{N} = \bar{x}$, your average profit per trade. And since $F(t) = F_0 \cdot (1 + \bar{g})^t$, your choice is limited to the variables in that equation: $\frac{F_0 \cdot (1 + \bar{g})^t}{N} = \bar{x}$. You increase N ; you reduce \bar{x} ; you increase t , and you can increase \bar{x} if \bar{g} can be maintained. At the same time, you could increase N to the point that \bar{x} will decrease as you add trades with below-average profit.

We should remember that we are dealing with the average of an exponential function. And in this case, even the bet size is intended to go exponential.

To be more selective, let's start by picking the top 100 stocks. That is readily available in the QQQ ETF. Remember that QQQ has been around only since 1999. It is composed of the 100 highest-valued stocks on NASDAQ. The top 100 has changed over time, but for someone buying QQQ, there was nothing to do to maintain the list up to date. The ETF issuer did and will continue to do all the maintenance, rebalancing, and updating. The stocks that cannot retain their top 100 status are replaced by newcomers with even more potential. That process should continue

onward. Note that the top 20 stocks on that list dominate the average since QQQ is value-weighted.

The After Retiring

Assume that at retirement age, you are opting to continue what you were doing before, no matter your investment methods. Technically, you would have proven that before retirement, your investment methods would have worked up to that time. You got out of them: $F(t) = F_0 \cdot (1 + \bar{g})^t$, and it is from there that you will follow suit.

However, from retirement onward, you want to withdraw about 5% per year for your living expenses and stuff. The second part of equation (1) answers that. It would be sufficient to have $\hat{g} > |\hat{w}|$ or $\hat{g} > 0.05$ for the portfolio to continue to grow. And, it would grow at $\hat{g} - 0.05$.

The higher the expected future growth rate \hat{g} , the higher the growth rate differential. And since we are playing for the long term, the higher the slope, the faster a stock portfolio would grow. All the while, the size of withdrawals would increase at the same rate.

You would be indexing and financing your annuity payments rather than subcontracting some fixed annuity over a fixed period. Furthermore, it would all be under your control. No rules or regulations would force you to withdraw funds due to age or whatever when you were not ready to do so at those times and percentages.

You would be free to do whatever you want, whenever you want, with your money. And that too, should be an objective to reach in your retirement years: total financial freedom from insurance, banks and financial companies, your government, and even from your "might be" financial advisors. YOU would be in charge, period.

Using the S&P 500 as a long-term market average proxy, all you needed to get close to that average is to buy SPY and hold.

Simply buying QQQ would have outperformed the market average. It was not because you made better predictions but because of QQQ's stock selection. You would have picked the top 100 of the top 500, and that is sufficient for QQQ to outperform SPY.

Looking back at my series of articles on QQQ, you will find it very easy to outperform SPY. All you had to do was buy QQQ instead of SPY. And you knew from the start that QQQ would outperform SPY by design. In the future, it will do the same, again by design.

Your choice is not some added work you need to do; it is just a choice of trading vehicle. You could buy either QQQ, DIA, or SPY and then hold for the duration. If

you selected QQQ, then you will have outperformed SPY. Not because you made a better prediction but because you selected the top 100 of the top 500.

Furthermore, you could not say, "I did not have the time to do the job". It was a single decision, a single point in time.

The only excuse you could have is that you did not have the money. I certainly do understand that. You knew what to do but could not do it because you had no money to play that game. But then, your efforts should have been to look for ways to make it happen anyway, bit by bit if necessary.

One thing to consider when planning for your retirement is that you can always add more capital as you go. It is not just a question of initial capital. The following equation adds a contribution C_1 to equation (1) after time t :

$$F(t) = (F_0 \cdot (1 + \bar{g})^t + C_1) \cdot (1 + \hat{g} - \hat{w})^\tau$$

This will impact the portfolio from t to τ . C_1 could also be negative as something you take out of your fund at retirement time for whatever reason. It is your money; you can do whatever you want.

Nonetheless, you can see the impact of such a withdrawal or contribution to your fund. It would look like a jump from one level to the next on a log chart. Since the fund would grow with time, the immediate impact might be minimal, but that contribution would, nonetheless, compound at the portfolio's future growth rate.

Based on the above formula, suppose you started at \$100k with a 20% CAGR, and after ten years, you add \$1 million to your portfolio. This would give: $F(t) = \$100,000 \cdot (1 + 0.20)^{10} + \$1,000,000 = \$1,619,174$. You look forward another 20 years, and you get: $F(t) = \$1,619,174 \cdot (1 + 0.20)^{20} = \$62,075,231$. Without the one million contribution, you would have had \$23,737,631.

If you give it more time, the difference would get even more dramatic, especially if you increased the growth rate to higher levels (which you can do easily). The ride would be bumpy, but all you would have to do is follow your trading program.

This should give you a sufficient reason to ensure that your trading strategy is based on real stuff that will happen in the future. If you think you can fool the market, think again.

To build your retirement fund, you have to invest in some appreciating assets. You are lucky; there are a lot of those around. However, some are not in that class, like a banana duck taped to a wall for \$200k. You do not need artificial intelligence; you only need plain intelligence. Common sense still applies.

Nonetheless, if you cannot put any money into appreciating assets simply because

you do not have it, you have to find other legal means to get that money. Paper trading or simulations do not bring you any money, no matter how good your trading strategies might be. If they do not go live, those trading strategies remain with a total value of zero. It is only live that a trading strategy can gain worthiness and some more than others.

Prepare Your Retirement Fund

Take charge. Nobody, except maybe your parents and friends, will come to the rescue. If you intend to count on your government pension fund, note that some 30% have and have to get by with less than two thousand dollars per month. You could too, but you should strive for more regardless.

Say you intend to save 5% of what you make per year. On an average \$60k salary, that is \$3,000 per year. That won't go far. Starting at 25, with a 10% savings account rate, you would have accumulated \$1,327,778 over those 40 years. Starting at age 65, your monthly income would be \$5,532. If all you could get was a 5% return on your savings (which is more likely), by age 65, you would have \$362,399 and could benefit from a \$1,510 monthly stipend. And that is on the basis you could put aside \$3,000 per year.

More needs to be done, not just for your financial security but also for the well-being of your family.

You opt to change your perception of things. You just found the tools to increase your overall CAGR over the 30% level. You know it will be riskier, meaning it will be a bumpy ride, but you are almost assured you will make it over the long term.

The basis of your investment method is based on QQQ, which invests in the top 100 highest-valued stocks on NASDAQ. You know the stocks part of that list will continue to prosper for many years. And if any of them fail to remain on the list, they will be replaced by better ones. Technically, it becomes your bet on America. Whichever stock makes the list, they will be major players.

In building your retirement fund, you cannot afford to miss your minimum goal. And whatever that level, it will be translatable to your expected average growth rate \hat{g} . It will wiggle around with its ups and downs. But your goal has a long-term objective.

It is not the daily price gyrations that should bother you; it's the long-term outcome. You do not know the future value of \hat{g} , but you know the needed growth rate to reach your goal.

Design some scenarios (use any spreadsheet) based on your view of what you can do. You can use the formulas presented in my recent articles, including this one.

The chart below could serve as a basic spreadsheet template of what you could do. The cells in green give the initial conditions that could be changed. Everything else are calculated cells based on those numbers.

The objective is to retire after 20 years and live on the proceeds of the 5% withdrawals per year (last column). Note that even after retiring, the yearly withdrawals increase year over year. You could extend that chart to see the outcome up to 100. You will see that the fund continues growing, just like the yearly withdrawals.

Figure 2: Retirement Funds

Starting Age	Time t Year	Using SPY	Using QQQ	Your Fund	Yearly Contributions	Your Fund	Your Fund
		Fund A (SPY)	Fund B (QQQ)	Fund C (TQQQ)		Yearly Withdrawal Rate	Monthly Withdrawals Once Retired
25		Expected Growth Rate	Expected Growth Rate	Growth Rate	10,000	0.05	
		1.10	1.15	1.30	1.05		
25	0	100,000	100,000	100,000	10,000	0	0
26	1	110,000	115,000	140,000	10,500	0	0
27	2	121,000	132,250	192,500	11,025	0	0
28	3	133,100	152,088	261,275	11,576	0	0
29	4	146,410	174,901	351,234	12,155	0	0
30	5	161,051	201,136	468,759	12,763	0	0
31	6	177,156	231,306	622,149	13,401	0	0
32	7	194,872	266,002	822,195	14,071	0	0
33	8	214,359	305,902	1,082,925	14,775	0	0
34	9	235,795	351,788	1,422,577	15,513	0	0
35	10	259,374	404,556	1,864,863	16,289	0	0
36	11	285,312	465,239	2,440,611	17,103	0	0
37	12	313,843	535,025	3,189,898	17,959	0	0
38	13	345,227	615,279	4,164,826	18,856	0	0
39	14	379,750	707,571	5,433,130	19,799	0	0
40	15	417,725	813,706	7,082,868	20,789	0	0
41	16	459,497	935,762	9,228,518	21,829	0	0
42	17	505,447	1,076,126	12,018,902	22,920	0	0
43	18	555,992	1,237,545	15,647,492	24,066	0	0
44	19	611,591	1,423,177	20,365,806	25,270	0	0
45	20	672,750	1,636,654	26,500,817	26,533	1,325,041	110,420
46	21	740,025	1,882,152	33,152,555	27,860	1,657,628	138,136
47	22	814,027	2,164,475	41,468,553	29,253	2,073,428	172,786
48	23	895,430	2,489,146	51,864,944	30,715	2,593,247	216,104
49	24	984,973	2,862,518	64,861,895	32,251	3,243,095	270,258
50	25	1,083,471	3,291,895	81,109,620	33,864	4,055,481	337,957
51	26	1,191,818	3,785,680	101,420,888	35,557	5,071,044	422,587
52	27	1,310,999	4,353,531	126,811,667	37,335	6,340,583	528,382
53	28	1,442,099	5,006,561	158,551,918	39,201	7,927,596	660,633
54	29	1,586,309	5,757,545	198,229,099	41,161	9,911,455	825,955
55	30	1,744,940	6,621,177	247,827,536	43,219	12,391,377	1,032,615

[\(Click here to enlarge\)](#)

You could add yearly contributions to your fund as illustrated in Figure #2. You could even increase those contributions yearly at the specified rate (5%). It is all up to you.

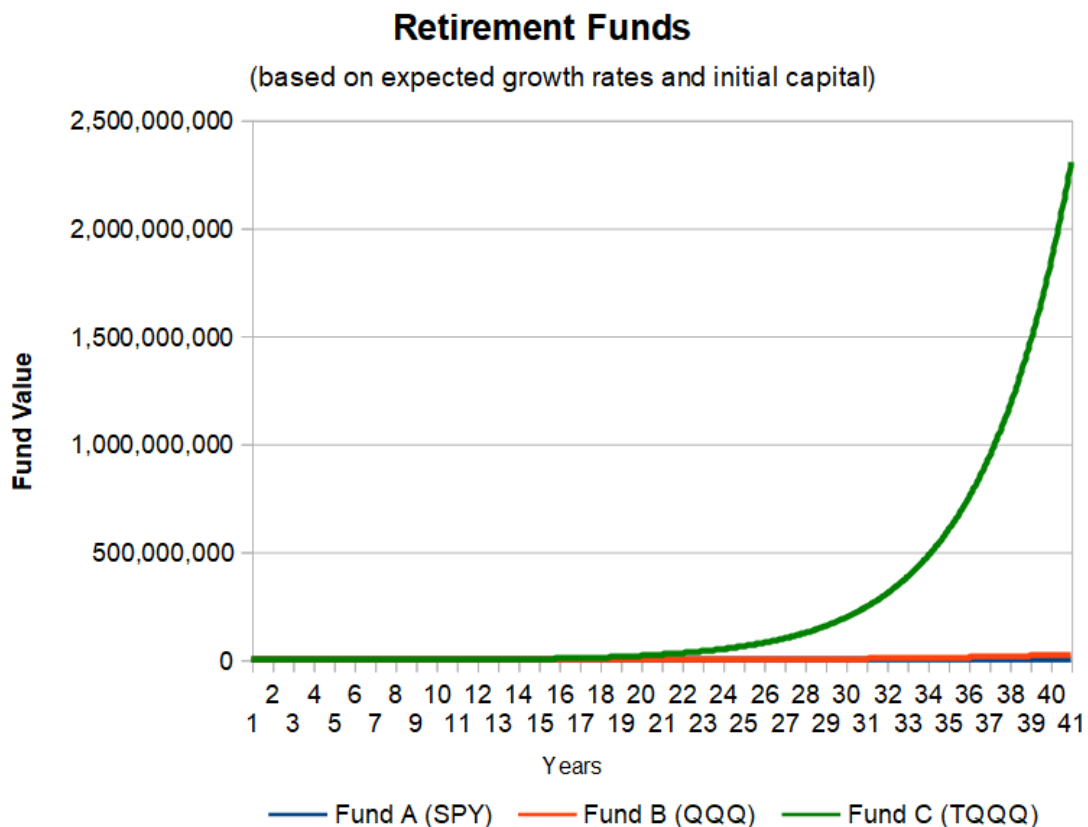
The surprise might be that even after 20 years, you would have accumulated enough to retire with revenues above \$1 million per year. And those withdrawals would

increase year by year. All you would have to do is continue to follow the TQQQ trading program.

The last column gives: "once retired", but you do not have to retire; you might not have reached 65 yet based on your starting age. Note that changing the starting age does not change the equations. The column that controls everything is the second one (time t).

What you might find difficult to reach is the 30% growth rate. But there, the simulations based on TQQQ in prior articles showed that over the last 14.44 years, the strategy's CAGR exceeded 50%. Therefore, the 30% is not out of reach. However, the ride should be expected to be bumpier than the average market since TQQQ is a 3x-leveraged edition of QQQ.

Figure 3: Retirement Funds - Chart



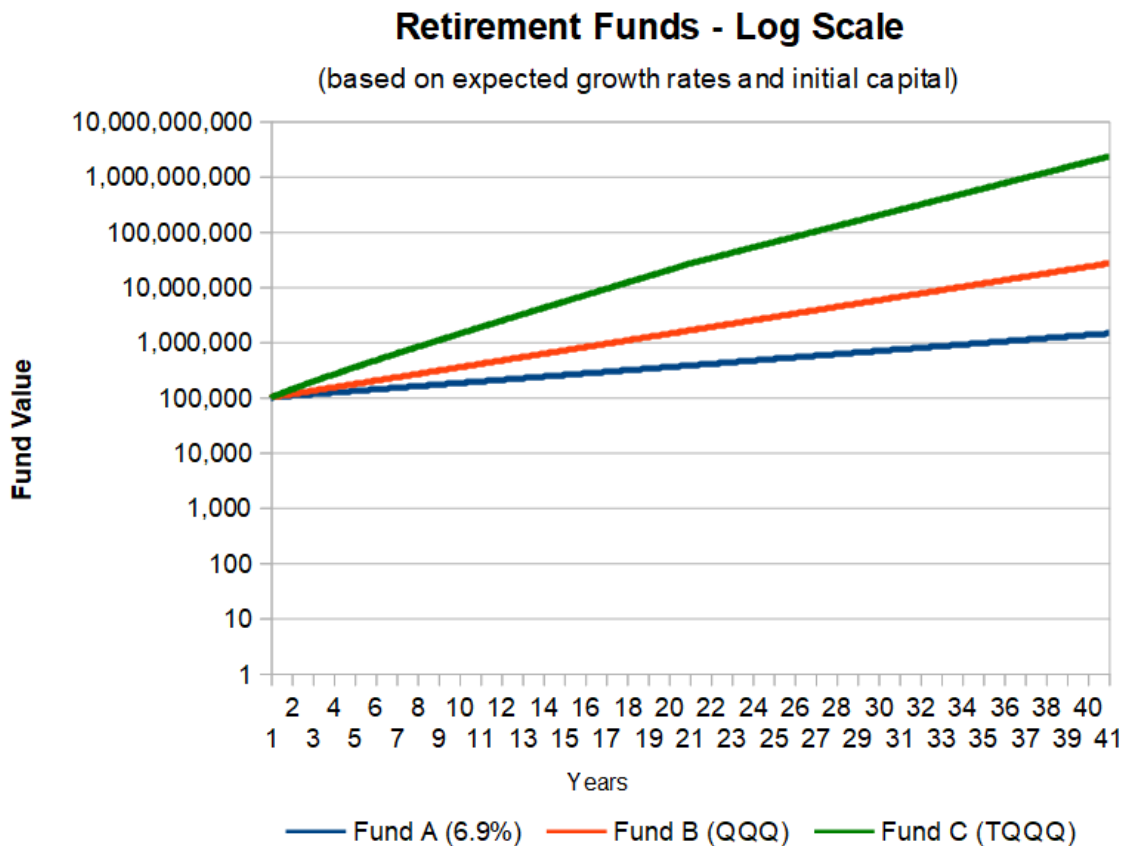
[\(Click here to enlarge\)](#)

The above chart illustrates the numbers of Figure #2. We might not see much of a difference in the first 15 years or so, but that is not what you are playing for. You are playing for what happens after year 20. By age 65, the above chart says you would have reached in excess of \$2 billion based on the numbers in Figure #2. That should

be more than enough to cover all living expenses.

We could view the same chart as above (Figure #3) but on a log scale. To make it relatable to Figure #1, I set Fund A to a 6.9% growth rate. It makes the Fund A line equivalent to the regression line on stocks in Figure #1. As said before, it all reduces to the slope of the curve, or as expressed often, to \bar{g} , your portfolio's average growth rate.

Figure 4: Retirement Funds - Chart - Log Scale



[\(Click here to enlarge\)](#)

In building your retirement fund, you will face the choice: which of the three curves will you select? It might appear there is not that much difference between them; they all slope upwards. But over time, they will give you Figure #3, and the choice becomes clear.

It is your investment methods and trading strategies
that will make a difference. **So take charge.**

Related Papers and Articles:

[There Is Always A Better Retirement Fund](#)

[Welcome To YOUR Stupendous Retirement Fund](#)

The One Percent a Week Stock Trading Program: [Part VII](#), and [Part VIII](#)

The One Percent a Week Stock Trading Program: [Part V](#), and [Part VI](#)

The One Percent a Week Stock Trading Program: [Part III](#), and [Part IV](#)

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