The One Percent a Week Stock Trading Program - Part I

by: Guy R. Fleury

This adventure starts with another trading program that is freely available on **Wealth-Lab**. This one is interesting, but what's more, it's simple. Its trading method, despite its simplicity, could work for years, even a lifetime, especially when building a retirement fund that will also be your legacy fund. Lasting a long time is mandatory and an essential requirement, even a prerequisite to undertaking such a journey.

The *One Percent a Week* program places a limit buy order at one percent below the opening price every Monday. Once in a trade, it will liquidate its position after reaching its profit target of one percent at any time during the week. If not, it will close the position near the close on the last trading day of the week (meaning Friday near the close).

The question is: Are the rules of engagement sufficient to generate worthwhile profits?

Stock prices do not always dip by one percent at the start of every week. Nonetheless, if this method of play could reach its theoretical potential, it could be more productive than most trading strategies, making it highly desirable. A simulation using the program will test this assumption.

The equation for it is straightforward $F(t) = F_0 \cdot (1 + 0.01)^{52 \cdot y}$ where y is the number of years this program will run. Let's put it in numbers: start with $\$100$k and give it 20 years: $\$100k \cdot (1 + 0.01)^{52 \cdot 20} = \$3,120,532,672$. Yes, $\$3$ billion. Quite an objective! Over one year, we have $(1.01)^{52} = 1.68$ giving a compounding growth rate of 68%. A highly desirable outcome **IF**, and I do mean **IF**, we could make it happen. Getting close could also be acceptable.

As said, this method of play could last for decades. You are not asking for much. A Monday is always coming your way, and you can always place a limit order at the open at the price you want. You don't even need a computer program or be some scientist to do it. Once your trade executes at one percent below the open, you place another limit order to sell at your one percent profit target and wait for it to happen within the week. If not, you take a smaller profit or the loss and exit on that Friday's close. The program will give you the discipline to do so. Now, if you want to count, that adds to one potential trade per week. Some weeks, you will not have that 1% discount, resulting in no trade.

The program currently lacks protective measures, which will impact overall results. While there is a limited safeguard in the form of a trade's maximum duration of 5 days, this is not comprehensive protection. The time-out limit, while providing some defense against prolonged drawdowns, is not enough. In the event of prolonged drawdowns, you would take a position every Monday and sell it at a loss on Friday. A situation that could prove detrimental to your long-term portfolio results.

The trading idea itself has some merit. It could have long-lasting value. From the start, there is always a Monday. There will be one for as long as you live. The strategy could be a candidate for building up your long-term retirement and generational fund. At least you have fulfilled an essential requirement: the strategy's trading premise could last decades.

The question is: Are the rules of engagement sufficient to generate worthwhile profits?

Nothing in there says anything about the economy or the state of the markets. There is no trader belief system except that you are dealing with a generally rising market (more up weeks than down weeks).

Nonetheless, it becomes a gambling system where you place your bet on Monday and wait for your profit or loss by the coming Friday. Even if it was considered gambling and you ended up being highly profitable, I think you would take to gambling this way; no problem, especially if you know you will be winning the long-term game. You are in it for the money, after all.

What Needs To Be Done?

The strategy is looking to make, ***on average***, 1% per week, not necessarily making it every week. Your interest is in the final outcome, so missing a week here and there will not make that much of a difference since the end could be 40 to 70+ years away.

You want to make sure you reach your goals and prosper. You might not make any money while you stay on the sideline, but at least you are not losing any. Nonetheless, the missed weeks will have an impact.

We can enhance the strength of the positive procedures to compensate for missed trades. There are more up weeks than down weeks. Your expected hit rate should be in the vicinity of 53 to 54%. It also means your loss rate should be near 46 to 47%. Therefore, as should be expected, you will not win all your trades; there will be losses, and they will impact overall results.

Your trading is limited to one trade a week. The potential number of trades is $N = 52 \cdot y$ where y is the number of years the strategy will run. Over 20 years, we should have 1,040 trades at most. It will be less since we are asking for a 1% discount,

which will not always happen. It will be even less after adding a timing component and protective measures. However, those enhancements could improve the average profit per trade and compensate for the missed trades.

Let's Start The Adventure

What is the original and current state of that program? I will use version #3, as given in the strategy examples section of the Wealth-Lab program. Here are some of its parameters before running it:

- initial capital: $100,000
- benchmark: SPY (as acceptable market average proxy)
- ETFs to trade: SPY, DIA, QQQ, and TQQQ
- start date: 1/03/2000 (1,222.8 weeks).

January 2000 was a market top just following the Y2K bug. It was a market high that would wait until mid-2006 before being exceeded. The program would also face the 2008 financial crisis and the Covid shutdown. There was market turmoil during those 24 years, no doubt.

I will not run portfolios based on stock selections other than the above proxy surrogates, except maybe some individual stocks later. I want to see the general behavior of the trading procedures. Trading SPY is close to the same as trading the 500 stocks part of the S&P 500; DIA is tracking the 30 stocks of the DJI index, while QQQ is tracking the 100 stocks part of the NASDAQ NDX index. All three include all delisted stocks (thereby bypassing any question of survivorship bias). Two are value-weighted (SPY and QQQ), while DIA is price-weighted. It will have an impact.

The main reason to use SPY, DIA, and QQQ is that their ongoing composition is entirely out of your control. They are proxies for the overall market and have been around for 25+ years, and they will be around for quite some time more.

Running the original version of the program gave the following:

Figure (1) shows the equity curve for the original version of the program using QQQ with SPY as a benchmark. Right off the gate, I expected QQQ to outperform SPY, which it did. However, I expected the outcome to be higher. Most of the green on the chart is light green, meaning that the program mostly held cash. Still, the program made money and outperformed SPY.

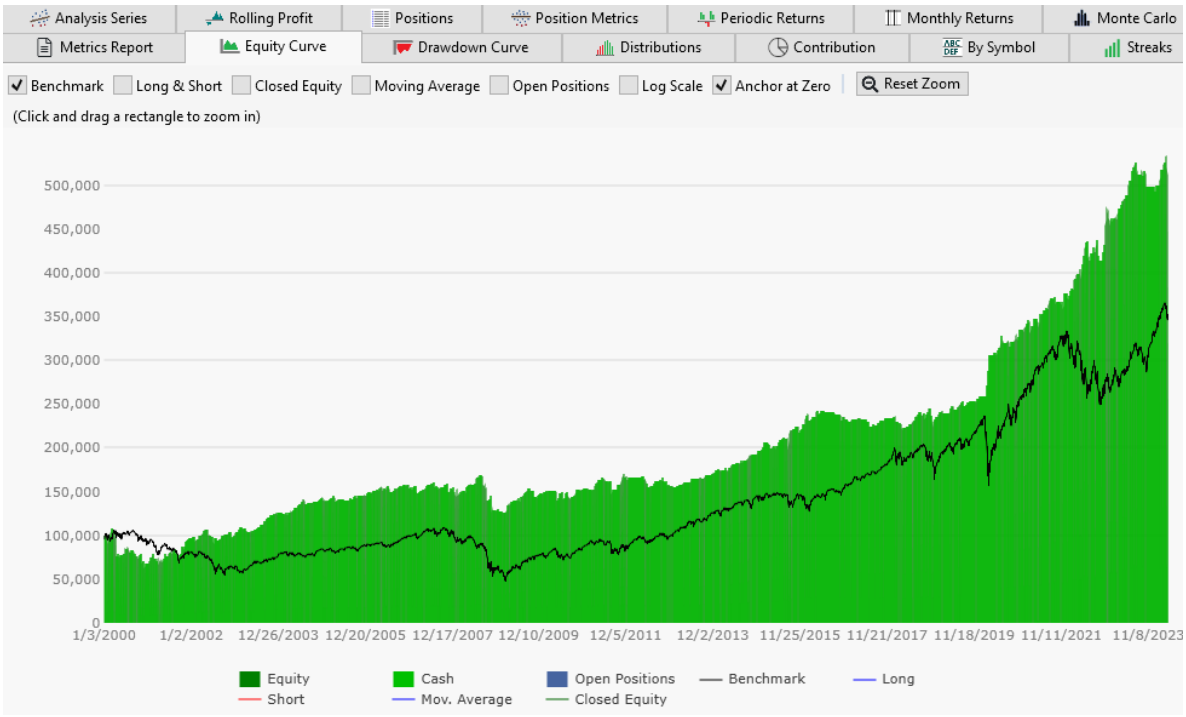


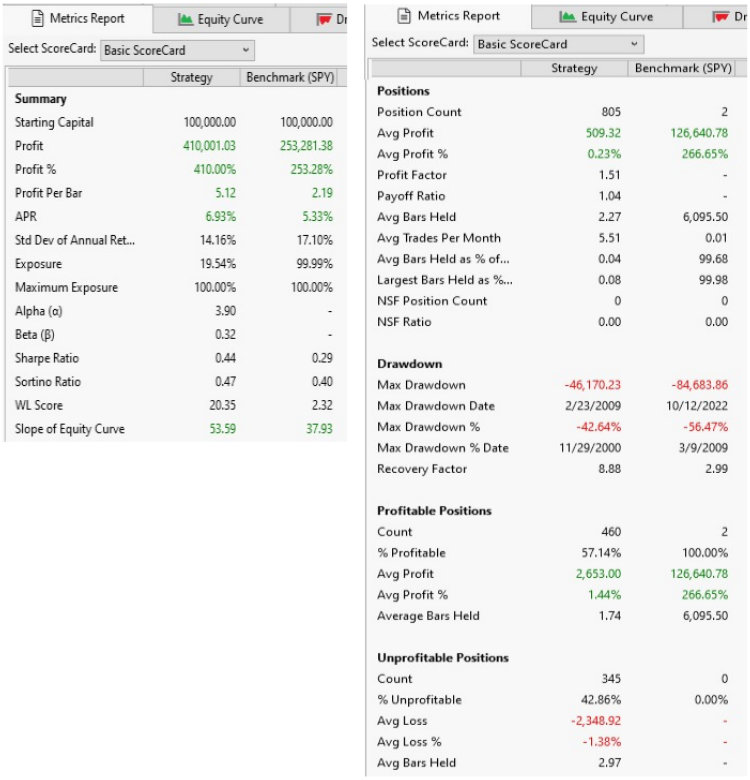
Figure 1: One Percent Per Week - Original Using QQQ - Equity Curve

(**Click here to enlarge**)

Figure (2) gives the strategy's portfolio metrics. We have an average growth rate of 6.93% (APR) and an exposure of 19.54%. It does outperform SPY, but not by much. I do not consider it enough. On that basis, I would throw it out and pass to something else that might show more promise.

Figure (2) also shows the rest of the portfolio metrics, with a breakdown of positions taken. There were 805 trades, of which 460 were profitable (57.14%) and 345 trades showing a loss (42.86%). The average profit per trade was 0.23%. Positions were held, on average, for less than three days. There was a potential for 1,222 trades over those 24 years. The discount request was accepted in 65.8% of cases. It is equivalent to being on the sidelines for 1.65 years. Not that productive.

Furthermore, rejected trades also tend to occur during rising prices, which is not a desirable trait. I have nothing against requesting a discount, especially such a small one (1%). But, here, it does have a negative impact. The exposure rate is a mere 19.54%, meaning that, on average, the strategy only uses 19.54% of the available capital. That could be a good point. You make about as much as if holding SPY, and you do it with less than 20% of the capital. On a risk-adjusted basis, that is interesting. The problem is that the otherwise available cash (≈80%) is doing nothing.



Metrics Report | Equity Curve | Dr

Select ScoreCard: Basic ScoreCard

	Strategy	Benchmark (SPY)
Summary		
Starting Capital	100,000.00	100,000.00
Profit	410,001.03	253,281.38
Profit %	410.00%	253.28%
Profit Per Bar	5.12	2.19
APR	6.93%	5.33%
Std Dev of Annual Ret...	14.16%	17.10%
Exposure	19.54%	99.99%
Maximum Exposure	100.00%	100.00%
Alpha (α)	3.90	-
Beta (β)	0.32	-
Sharpe Ratio	0.44	0.29
Sortino Ratio	0.47	0.40
WL Score	20.35	2.32
Slope of Equity Curve	53.59	37.93

Metrics Report | Equity Curve | Dr

Select ScoreCard: Basic ScoreCard

	Strategy	Benchmark (SPY)
Positions		
Position Count	805	2
Avg Profit	509.32	126,640.78
Avg Profit %	0.23%	266.65%
Profit Factor	1.51	-
Payoff Ratio	1.04	-
Avg Bars Held	2.27	6,095.50
Avg Trades Per Month	5.51	0.01
Avg Bars Held as % of...	0.04	99.68
Largest Bars Held as %...	0.08	99.98
NSF Position Count	0	0
NSF Ratio	0.00	0.00
Drawdown		
Max Drawdown	-46,170.23	-84,683.86
Max Drawdown Date	2/23/2009	10/12/2022
Max Drawdown %	-42.64%	-56.47%
Max Drawdown % Date	11/29/2000	3/9/2009
Recovery Factor	8.88	2.99
Profitable Positions		
Count	460	2
% Profitable	57.14%	100.00%
Avg Profit	2,653.00	126,640.78
Avg Profit %	1.44%	266.65%
Average Bars Held	1.74	6,095.50
Unprofitable Positions		
Count	345	0
% Unprofitable	42.86%	0.00%
Avg Loss	-2,348.92	-
Avg Loss %	-1.38%	-
Avg Bars Held	2.97	-

Figure 2: One Percent Per Week - Original Using QQQ - Metrics

(**Click here to enlarge**)

Another problem with requesting the 1% discount is that you got it most of the time (≈57.14%). You enter on a price drop that might not recover within the week, and there is a forced exit on Friday's close. Sometimes, you will catch a falling knife early with no remedy or rebound above your entry price. You see trades accumulate during drawdowns that will turn out negative, and trades get scarce during upswings. Both are not desirable.

No matter the trading strategy, you want to be in the market (long) during upswings and out or short during downswings. That should supersede the discount request.

So, how do we solve that? Easy, stop doing it.

Start by making entries and exits conditional. Also, the participation rate (exposure) is too low. It is a game where your profit depends on your participation. It is true that if you have no position, you cannot lose money, but also, you cannot win any either. Therefore, we should explore the notion of 'qualifying bets'.

Figure (3) presents the equity curve as in Figure (1), but using TQQQ, the 3x-leverage ETF based on QQQ. The move was much more productive, yet we only changed the ticker symbol. We are still using the QQQs but a leveraged-up version.

Selecting TQQQ pushed the CAGR to 39.05% compounded over 14 years. TQQQ dates back only to February 2010.

Would you have dared in 2010 to switch from QQQ to TQQQ knowing that, technically, you would be dealing with a 3x-leveraged version of QQQ?

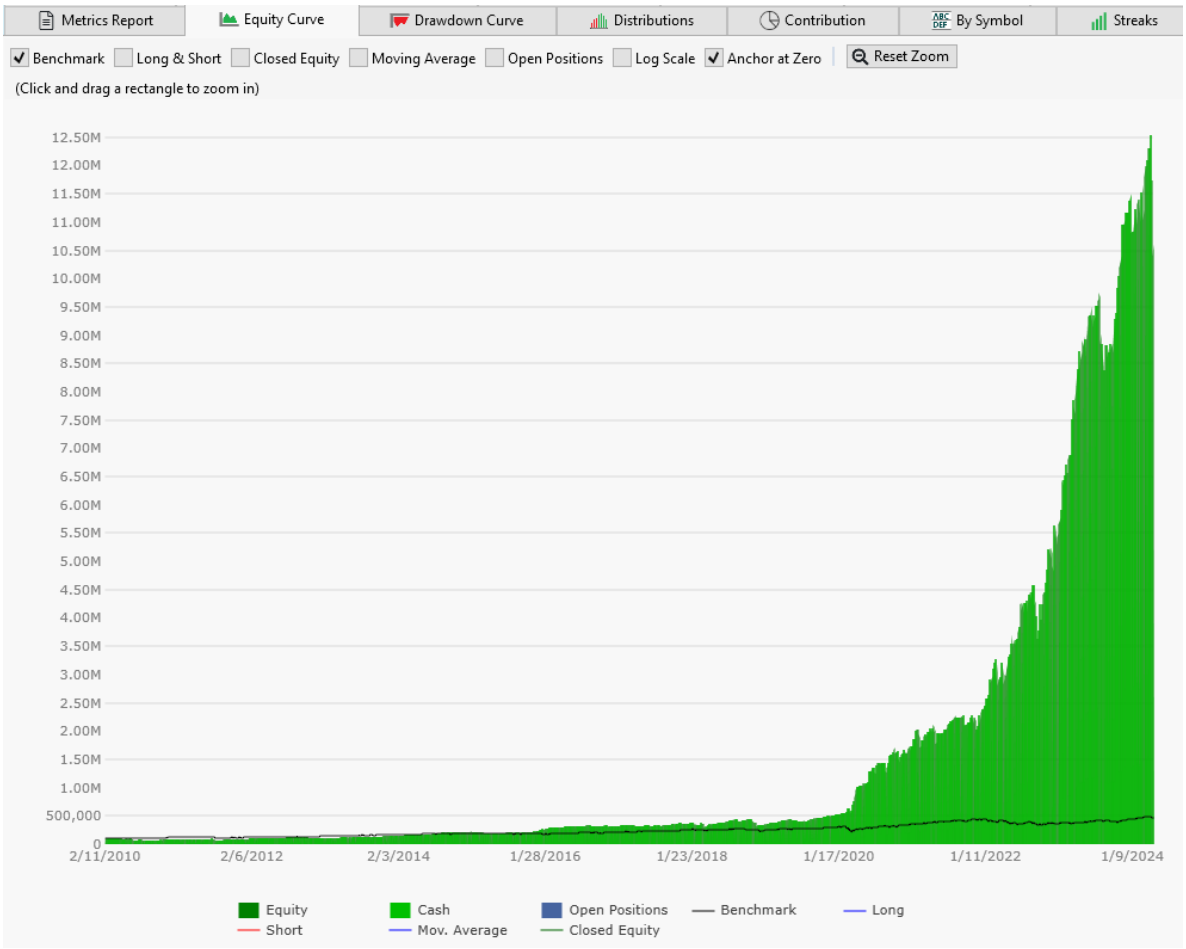


Figure 3: One Percent Per Week - Original Using TQQQ - Equity Curve

(**Click here to enlarge**)

TQQQ is a way of ”buying” leverage without paying for it. The 39.05% CAGR turned an initial $\$100k$ into $\$10,681,520$ in 14 years. And would have turned $\$1$ million into $\$106,815,200$. Again, the initial capital is a matter of choice and availability.

Your trading strategy will obey every equal sign in the following:

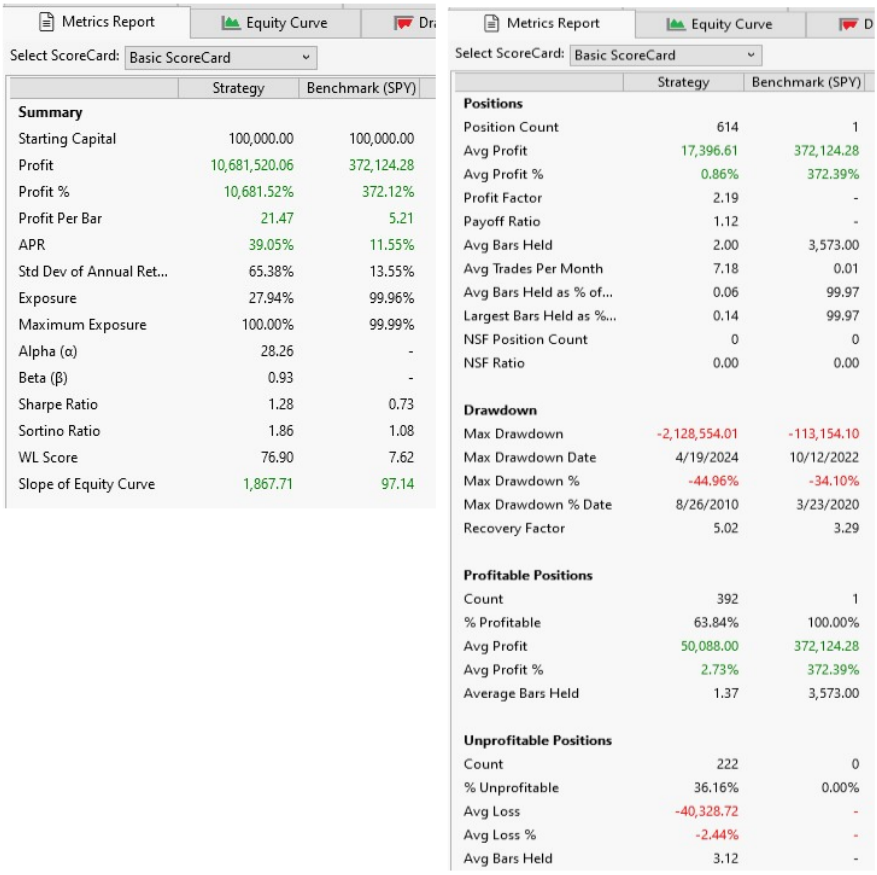
$$F(t) = F_0 + \sum^{N}(H \cdot \Delta P) = F_0 \cdot (1+\bar{g})^t = F_0 + \sum^{N} x_i = F_0 + N \cdot \bar{x} = F_0 + \sum^{N}(b_i \cdot r_i) \quad (1)$$

each equal sign leads to the same outcome. The position size b_i is easily determined $b_i = q_i \cdot p_i$, the initiating buy at limit order for any of those bets. In the holding matrix

H, you find the ongoing inventory of every share bought B or sold S: $H = H_0 + B - S$.

Each of the factors in equation (1) provides some limit to the outcome. For instance, F_0 has a significant impact since it is what is being compounded $F_0 \cdot (1 + \bar{g})^t$. If you increase it by a factor of 10, the outcome will be ten times larger. You increase the average rate of return $\bar{g}$, and it will increase the outcome, too.

It is the applied time that will be most critical. The more time you allow, the greater the outcome. You observe an exponential equation at play with a doubling time: $(1 + \bar{g})^t = 2^n$. You have an average doubling time of 4 years, so in 20 years, you would have $2^5 = 32$ times your original stake. The growth rate needed to accomplish that is $16^{1/20} - 1 = 0.1487$. A growth rate of 14.87% would be sufficient to turn $100k into $1.6 million in 20 years. If you kept the same growth rate for another 20 years, you would get $25.6 million. You could average 15% just holding the QQQs for those 40 years, whether for yourself or your loved ones.



Metrics Report | Equity Curve | Dr

Select ScoreCard: Basic ScoreCard

	Strategy	Benchmark (SPY)
Summary		
Starting Capital	100,000.00	100,000.00
Profit	10,681,520.06	372,124.28
Profit %	10,681.52%	372.12%
Profit Per Bar	21.47	5.21
APR	39.05%	11.55%
Std Dev of Annual Ret...	65.38%	13.55%
Exposure	27.94%	99.96%
Maximum Exposure	100.00%	99.99%
Alpha (α)	28.26	-
Beta (β)	0.93	-
Sharpe Ratio	1.28	0.73
Sortino Ratio	1.86	1.08
WL Score	76.90	7.62
Slope of Equity Curve	1,867.71	97.14

Metrics Report | Equity Curve | D

Select ScoreCard: Basic ScoreCard

	Strategy	Benchmark (SPY)
Positions		
Position Count	614	1
Avg Profit	17,396.61	372,124.28
Avg Profit %	0.86%	372.39%
Profit Factor	2.19	-
Payoff Ratio	1.12	-
Avg Bars Held	2.00	3,573.00
Avg Trades Per Month	7.18	0.01
Avg Bars Held as % of...	0.06	99.97
Largest Bars Held as %...	0.14	99.97
NSF Position Count	0	0
NSF Ratio	0.00	0.00
Drawdown		
Max Drawdown	-2,128,554.01	-113,154.10
Max Drawdown Date	4/19/2024	10/12/2022
Max Drawdown %	-44.96%	-34.10%
Max Drawdown % Date	8/26/2010	3/23/2020
Recovery Factor	5.02	3.29
Profitable Positions		
Count	392	1
% Profitable	63.84%	100.00%
Avg Profit	50,088.00	372,124.28
Avg Profit %	2.73%	372.39%
Average Bars Held	1.37	3,573.00
Unprofitable Positions		
Count	222	0
% Unprofitable	36.16%	0.00%
Avg Loss	-40,328.72	-
Avg Loss %	-2.44%	-
Avg Bars Held	3.12	-

Figure 4: One Percent Per Week - Original Using TQQQ - Metrics

(**Click here to enlarge**)

Only if you wanted something better would you seek other investment methods that could provide higher growth rates. The objective remains the same: to get the

highest possible outcome, provided that it is executable.

I think most people wanting to play this stock market game could easily achieve better than 20%. It will require a little work, but that should be expected. Getting that 20% would represent over the 40 years: $\$100k \cdot (1 + 0.20)^{40} = \$146,977,157$. The same amount of time elapsed. It was still 40 years but generated 5.7 times more. Yet, you are just talking about a 5% increase in CAGR.

Just changing the ticker, the growth rate increased to 39.05%, which is remarkable. We started with $100k, and ended up with $10.6 million. Also, the exposure grew from 19.54% to 27.94%, a better number than in Figure (2). Does it matter? Yes. The beta also increased to 0.93, indicating that the strategy would be less volatile than SPY ($\beta = 1.00$), which might not be the case according to Figure (3).

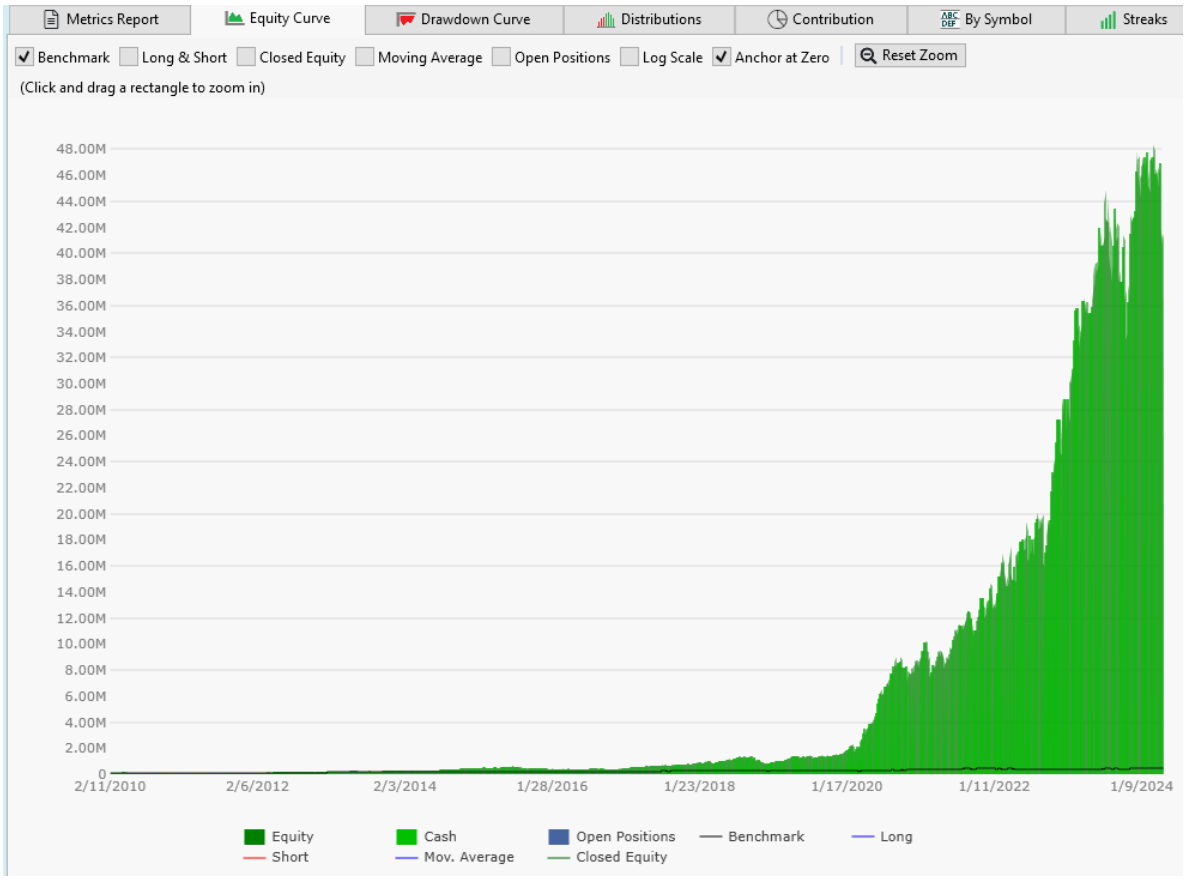


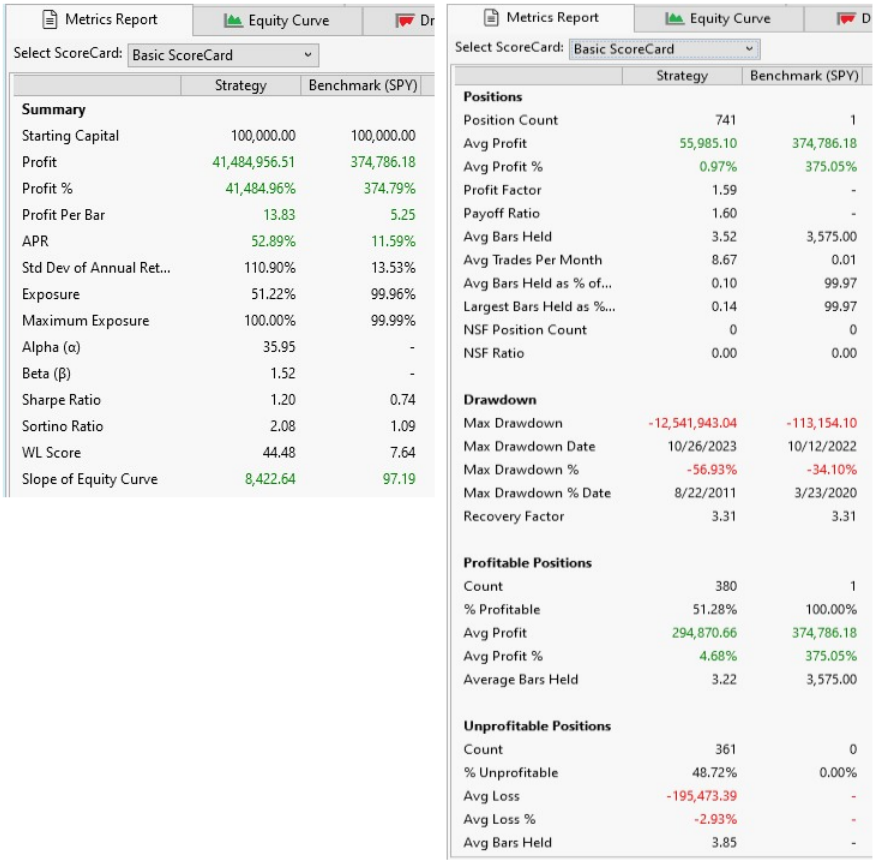
Figure 5: Changing The Profit Target - Modified Version Using TQQQ - Equity Curve

(**Click here to enlarge**)

The other metrics in Figure (4) show a reduced trade count (614). There were only 14 years of market data instead of 24, with a potential of 728 trades. The strategy had 63.84% of profitable trades. However, the drawdowns are more pronounced. Still, the overall outcome is pretty good.

In Figure (5), the picture changed. We went from about $10 million to about $41 million. Exposure increased to 51.22%, meaning a better utilization of available capital. The number of positions taken increased (741). The average profit per trade also increased to 0.97% compared to 0.86% in Figure (**??**). However, we still underutilize available capital.

The change in Figure (5) comes mainly from removing the 1% discount requirement and increasing the profit target. Changing two numbers and using the 3x-leveraged ETF TQQQ was enough to push the result higher by 400%. Changing two characters in a program generated $30 million more. Impressive.



Metrics Report | Equity Curve | Dr

Select ScoreCard: Basic ScoreCard

	Strategy	Benchmark (SPY)
Summary		
Starting Capital	100,000.00	100,000.00
Profit	41,484,956.51	374,786.18
Profit %	41,484.96%	374.79%
Profit Per Bar	13.83	5.25
APR	52.89%	11.59%
Std Dev of Annual Ret...	110.90%	13.53%
Exposure	51.22%	99.96%
Maximum Exposure	100.00%	99.99%
Alpha (α)	35.95	-
Beta (β)	1.52	-
Sharpe Ratio	1.20	0.74
Sortino Ratio	2.08	1.09
WL Score	44.48	7.64
Slope of Equity Curve	8,422.64	97.19

Metrics Report | Equity Curve | D

Select ScoreCard: Basic ScoreCard

	Strategy	Benchmark (SPY)
Positions		
Position Count	741	1
Avg Profit	55,985.10	374,786.18
Avg Profit %	0.97%	375.05%
Profit Factor	1.59	-
Payoff Ratio	1.60	-
Avg Bars Held	3.52	3,575.00
Avg Trades Per Month	8.67	0.01
Avg Bars Held as % of...	0.10	99.97
Largest Bars Held as %...	0.14	99.97
NSF Position Count	0	0
NSF Ratio	0.00	0.00
Drawdown		
Max Drawdown	-12,541,943.04	-113,154.10
Max Drawdown Date	10/26/2023	10/12/2022
Max Drawdown %	-56.93%	-34.10%
Max Drawdown % Date	8/22/2011	3/23/2020
Recovery Factor	3.31	3.31
Profitable Positions		
Count	380	1
% Profitable	51.28%	100.00%
Avg Profit	294,870.66	374,786.18
Avg Profit %	4.68%	375.05%
Average Bars Held	3.22	3,575.00
Unprofitable Positions		
Count	361	0
% Unprofitable	48.72%	0.00%
Avg Loss	-195,473.39	-
Avg Loss %	-2.93%	-
Avg Bars Held	3.85	-

Figure 6: Seven Percent Per Week - Modified Using TQQQ - Metrics

(**Click here to enlarge**)

Some might think that using a 3x-leveraged ETF is too risky. The support here is QQQ, and QQQ for what it represents will continue to grow over the years and still represent 100 of the highest-valued stocks on NASDAQ. Stocks drop off the QQQs, not because they go bankrupt, but because they fail to keep up with the pack; they fail to stay part of the top 100 or are acquired. Therefore, the risk one might envision is relatively low. It is not the same as if you tripled-leveraged a single stock where the probability of ruin would be more significant. Look at the example in the previous

article where the stock dropped by 90% in the first few minutes of trading; you would have lost more than twice your capital. So, not a recommendation as in don't do that.

In Figure (6), we managed a 52.89% CAGR after those minor modifications.

It is remarkable how a slight change in perception was sufficient to increase the CAGR to that level.

We made two minor changes. The first allowed buying during an upswing and reduced the number of trades during a downswing. The second took advantage of TQQQ being three times more volatile than QQQ, so we requested more profits.

There are other things to be done to improve this program, such as reducing the drawdowns' impact. Nonetheless, we should expect higher risk for higher returns.

Was the 1% discount too much to ask? Absolutely not.

You could even request more, but technically, that is not the point. The program issues a limit buy order, which can be executed anytime during the day, including at the open. Therefore, the request is for the stock to drop in price by more than 1%. The market will oblige on this on quite a number of stocks.

However, this discount request is more devious. You request that a stock show some weakness from the start. And it is this weakness you want to buy with no assurance that the stock will only go down 1%. You might have a few stocks in a hundred that do that. However, for most of them, the downside will be more pronounced. And in all those trades, you could be trapped and forced to accept the loss by that Friday's close. However, if you waited longer than a week, the stock would have more time to recover, but with no guarantees.

By removing the 1% discount request and replacing it with a limit buy at the opening price, you request that the stock show no weakness. It will also allow buying on an upswing if the stock can drop by a penny below the opening price to activate the limit order. That simple move improved results, as shown in Figure (6).

However, most of the profits came from the increase in the profit target, which was raised to 7%. The reason is simple here, too.

You are dealing with a 3x-leveraged ETF, and it is implied that it has 3+ times the volatility of QQQ, which is also more volatile than SPY. Based on the latest 3-month averages, TQQQ has a volatility of 14.59%, while QQQ's volatility is lower at 4.84%.

The request for a higher profit target is easily explainable and not part of some esoteric concept or curve fitting. By trading TQQQ, you will be in a more volatile scenario than trading QQQ or trading SPY. We should adapt to what we are trading.

The point is that making one-week bets is not what we should consider as investing, not even speculating, but simply gambling. There is a chance that by the coming Friday, you will have made that coveted 7%. Nothing is wrong with that, especially if you win the game. Nonetheless, let's be clear: you are designing a betting system with simple rules of engagement. Your interest in equation (1) is

$$F(t) = F_0 + \sum^{N} (b_i \cdot r_i) = F_0 + N \cdot \bar{x}$$

where all your bets are counted, and you need that positive average profit per trade $\bar{x} > 0$.

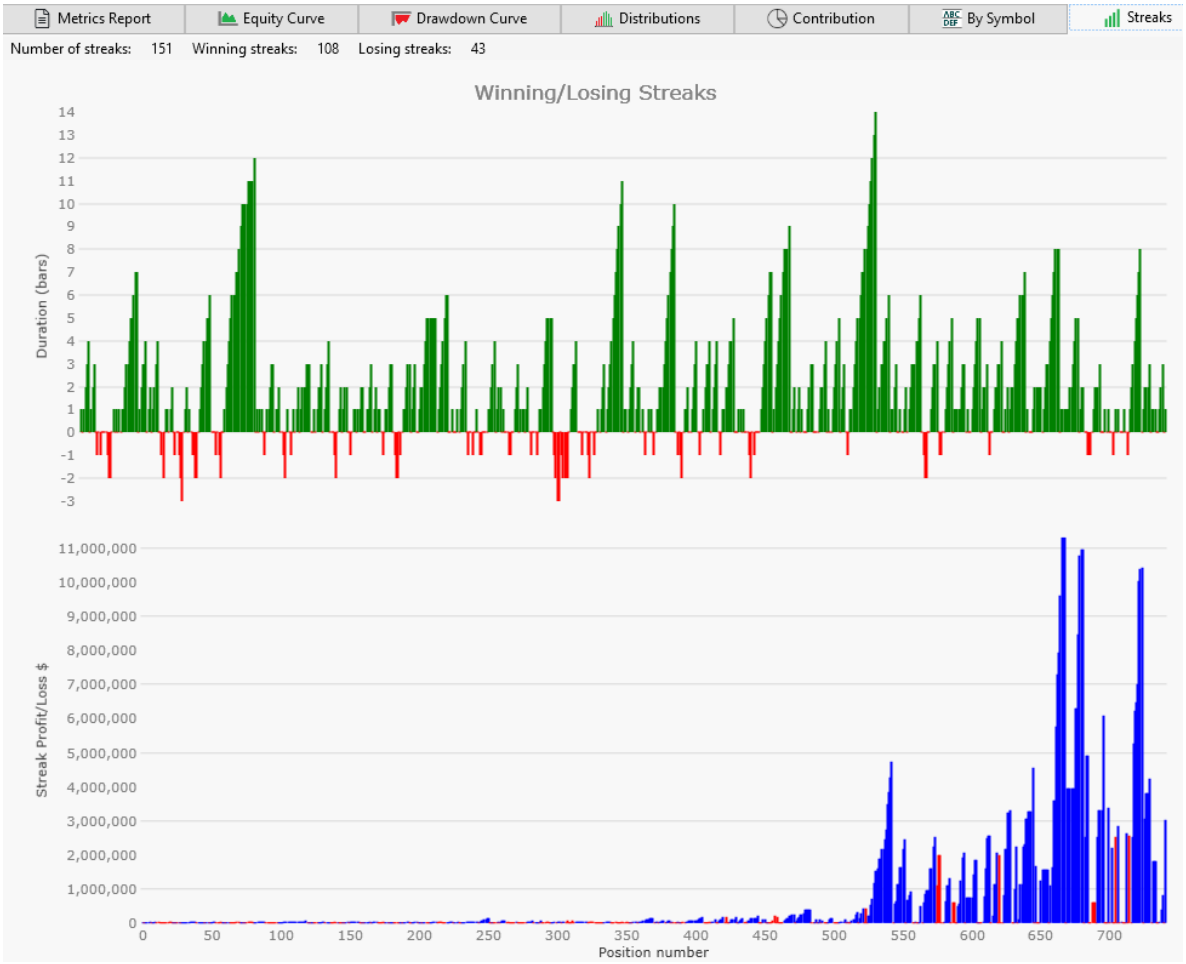


Figure 7: Seven Percent Per Week - Using TQQQ - Winning / Losing Streaks

(**Click here to enlarge**)

In Figure (6), the percent of profitable trades fell to 51.28%. Almost indistinguishable from random. The average profit per winning trade was $294,870.66, while the average profit percent per winning trade was 4.68%. Also, the average number of bars held increased to 3.22 days. Figure (7) shows that profits came mainly from the last 200 trades.

Figure (7) shows the sequence of winning and losing streaks. It predominantly shows winning streaks. Of the 151 streaks, 108 were winning streaks compared to 43 losing streaks. Furthermore, losing streaks were of shorter duration and magnitude. The other surprising thing about Figure (7) is the bottom panel showing the distribution of profits by streaks. It shows mostly profitable trades. Red bars (losses) are relatively small and sparse.

The best part is that you can do the same simulations and get the same results. What is needed is to gain confidence in yourself and the methods you want to use to build your retirement fund. Depending on the time you have, you will find that $\bar{x}$ and $\bar{g}$ are your main concerns. Equation (1) sets the mathematical boundaries.

Related Papers and Articles:

The Long-Term Stock Trading Problem - Part II

The Long-Term Stock Trading Problem - Part I

The MoonPhaser Stock Trading Program

Anticipating A Stock Portfolio's Long-Term Outcome

The Big Open Project

Sitting On Your Bunnies Might Be Your Best Investment Yet

Self-Managed Retirement Funds

Make Yourself A Glorious Retirement Fund

The Age Of The Individual Investor

Use QQQ - Make the Money and Keep IT

Take the Money and Keep it – II