YOUR TRADING RULES MATTER

by: Guy R. Fleury

My free book, **Gain Your Financial Freedom**, made the case that applying some elementary trading procedures could generate outstanding, impressive, and long-term results. It even included the code to my modified version of a free Wealth-Lab 8 trading strategy designed to profit from short-term market volatility.

The program accepted the random-like nature of short-term price movements as if playing a heads or tails game and putting the outcome of each taken position as an unknown until the position was closed for some reason or other.

As in the above-referenced book, **Your Trading Rules Matter** will demonstrate that a strategy's short-term trading rules matter. However, they will also have to work over extended periods.

We all know that the expected outcome of a fair coin toss competition is zero for both sides. At the very least, it is the most expected outcome.

There is a reason why we call it a zero-sum game. We can play for the entertainment, but we will eventually get bored. And if we do not have an edge in that kind of game like in a casino game, the House with its edge will take all the money we can give it over the long term. We can be lucky occasionally, but overall, the House's edge will win the game, and this is by design.

Without an edge for either side, take the following equation for 200 bets with winning or losing $500 with probability $\frac{1}{2}$. We should expect: $\$500 \cdot 100 \cdot 0.5 - \$500 \cdot 100 \cdot 0.5 = 0$. You had a 50% chance of winning or losing that $500 on every bet, and it shows.

If you played that game of 200 bets 200 times, you would find that you would get zero only 2-3% of the time. The rest would be under a bell-shaped curve with a mean of zero. We could even determine its expected variance: npq = $200 \cdot 0.5 \cdot 0.5 = 25$ and standard deviation: $(npq)^{0.50} = 5$.

If you wanted to play 100,000 such games, you would still have the same expectation: that is zero. The variance would increase to 250,000 and the standard deviation to 500. Nonetheless, the expectation is that you would not make any money except by chance. Therefore, why play such a game?

However, changing some betting rules could make the game behave quite differently.

For instance, we can make the odds of winning or losing an equal percentage of one's stake. Say you win or lose 5% of your ongoing stake on every bet you make. The equation for this would be: $F(t) = b_0 \cdot (1 + 0.05)^W \cdot (1 - 0.05)^L$. You would think

it is another fair game, but it is not, and by its very construct.

For example, with an equal number of wins and losses, W = 100 and L = 100, the outcome would be: E$[F(t)] = b_0 \cdot (1+0.05)^{100} \cdot (1-0.05)^{100} = 0.7785 \cdot b_0$. The expectation is to lose -22.15% of your initial stake. That is not a zero expectation.

If you raised the number of games, it would only get worse.

$$\text{E}[F(t)] = b_0 \cdot (1 + 0.05)^{500} \cdot (1 - 0.05)^{500} = 0.2860 \cdot b_0$$

where you would lose -71.4% of your money. Consequently, it is also a game you should not want to play.

Turning Things Around

You can turn things around. How? By designing yourself an edge.

Let's use the simulation example in the above-cited book. We had a win rate of 51.51%. It is not much, and it was not part of my design. It was simply there. Over the simulation's 14.6-year, there were simply more up than down weeks. The US market has been like that with an upside edge for decades.

If you always bet that prices go up, as the program does, you will get each time it went up over the entire interval. It would also be the same in the future.

In the cited example, the edge is small; on some 780 weeks (15 years), you would win 402 and lose 378 times. From those numbers, you would get E$[F(t)] = b_0 \cdot (1 + 0.05)^{402} \cdot (1 - 0.05)^{378} = 1.2520 \cdot b_0$, making you win the game after those 15 years, but not by much. At least you are positive and on the right track.

You can change the outcome even more if you add some trading rules to your game, as demonstrated in **Gain Your Financial Freedom**.

Using some of the numbers in the book, we had:

$$\text{E}[F(t)] = 0.50 \cdot \$100,000 \cdot (1 + 0.0454)^{402} \cdot (1 - 0.0271)^{378} = \$87,159,390$$

You did not need much to accomplish this.
Putting out a reachable profit target was sufficient.

The provided program code made the profit target 7%, and if the price had already started to rise, the target was increased by 1% more.

The profit target was reached only some of the time; about 32% of the positive trades hit their profit targets. Compared to the total number of trades, the trades

that reached their targets totaled 16.54%. Only 16.54% of all trades reached their profit targets or better. That was more than sufficient to end with a respectable profit.

If you started with $100k, with hardly any work, the expected outcome would be $87,159,390 for the first 15 years (see chart below). Your new program could have done the job in milliseconds every week. Starting with $1 million would have pushed your portfolio to $871,593,900 *with no added effort*.

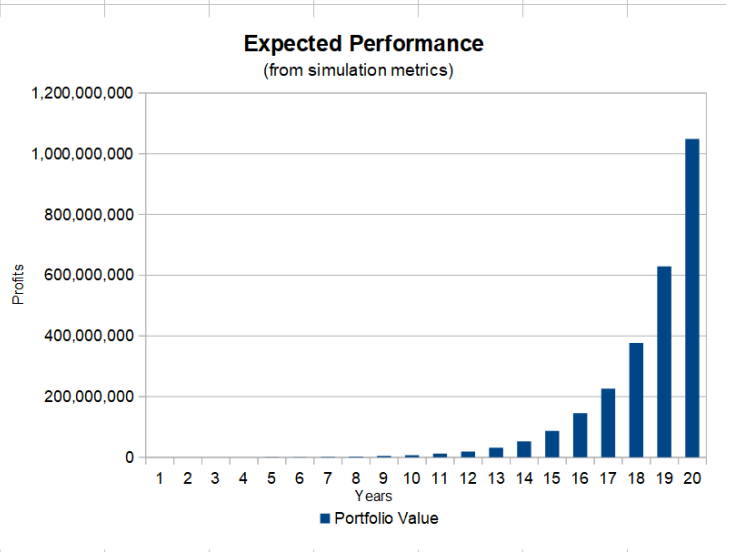
The weekly trading decisions demonstrated that your trading rules matter, that they do not have to be complicated, and that they should respond to common sense.

The program adhered to the following assumptions: if you want to go long, you should go for rising prices, and the price variations available within a week are limited. Trading short-term in a high-volatility stock can give more profit opportunities and again within limits.

Figure #1 below gives an approximation by year of the outcome of the trading strategy based on its long-term portfolio metrics. The 14.6-year metrics served to make the portfolio estimates over the 20-year interval. The portfolio value would converge toward the 14.6-year metric values and, from there, slightly diverge, going to the 20^{th} year. Still, it would underestimate the last few years.

Figure #1: TQQQ Strategy - No Leverage

	52	weeks per year			
	100,000	init. Capital			
	0.0454	average win %			
	0.0271	average loss %			
	0.5151	win ratio			
				Expected	Annualized
Year	Weeks	# win	# loss	Portfolio Value	Return
1	52	27	25	183,426	83.43%
2	104	54	50	239,199	54.66%
3	156	80	76	316,149	46.77%
4	208	107	101	460,650	46.50%
5	260	134	126	701,753	47.65%
6	312	161	151	1,104,039	49.22%
7	364	187	177	1,659,081	49.37%
8	416	214	202	2,701,364	50.99%
9	468	241	227	4,440,439	52.42%
10	520	268	252	7,342,127	53.67%
11	572	295	277	12,183,663	54.74%
12	624	321	303	18,863,626	54.75%
13	676	348	328	31,407,561	55.63%
14	728	375	353	52,337,419	56.39%
15	780	402	378	87,259,390	57.06%
16	832	429	403	145,527,539	57.65%
17	884	455	429	225,921,263	57.50%
18	936	482	454	376,888,207	58.01%
19	988	509	479	628,780,185	58.46%
20	1040	536	504	1,049,068,007	58.87%



(**Click here to enlarge**)

What you see in Figure #1 is still an approximation. The numbers will swing around, but if averaged, tend to the displayed results. Even if you are off a year here and there, the outcome will tend to the expected portfolio value column over the long

term. You would get more and more accurate as the number of years approaches the 14.6-year metrics.

In the above chart, the prize is not at the beginning of the series but at the end. You are dealing with an exponential curve that will zig and zag all over the place but which, when averaged out, should give something relatively close to Figure #1.

I emphasize the point that to reach the 20-year result, you have to commit the time needed. If you quit after 10 years, and it satisfies you, I am all OK with that. You are the one to make those decisions. But do not expect the 20-year results if doing so.

The difference between years 1 and 2 is $55,773, while the difference between years 19 and 20 is: $420,287,822. You delay one year, and that is your expected opportunity cost.

The above chart does not use leverage. Should you add some leverage, the outcome would be higher as demonstrated in **Gain Your Financial Freedom**.

In the TQQQ strategy, leverage serves as a performance accelerator. If you have less time before you retire, consider adding some leverage, enabling you to squeeze more in that shorter time interval.

We know that we have to invest in growing assets and not rely only on our savings account, which will be insufficient to meet our retirement needs.

We know we should not put all our eggs in the same basket, but we also know that the support for TQQQ is the top 100 highest-valued stocks on NASDAQ. That is a big basket to spread the long-term market risk in.

The objective is to make enough money prior to retirement that it will be enough not only to sustain that retirement but also to be a growing source of income. That, too, has been discussed in the book.

We were taught that we should expect an optimal portfolio residing somewhere on the efficient frontier when we have nothing to determine that YOUR portfolio will reside on that frontier, let alone that it will be the optimal portfolio we could achieve.

You have in **Gain Your Financial Freedom**, the needed notions to do better than the conventional wisdom. You can do much better than all that and easily outperform index funds. You could even challenge and outperform Medallion Fund with its 39% net CAGR.

The book gives you a method to do better. It gives you the underlying reasons why it will work. You even have the math and equations that explain the strategy with and without leverage.

You have the software program that can make it happen. It gives you the ability to verify everything presented in that book. There is no hype in all that, either. Verify it all and make this program yours.

One thing that should come out of this is that you should do your homework to prove to yourself that this program is something you can do to prepare for your retirement.

It all depends on you, and that is harder to escape. You are the one to make the decisions; you will be the one to make it happen. You can get help and advice and read books, but in the end, you will have to do the job, and this only if you want to. The ball is in your camp. Period.

DOING MORE

While at it, you might want to improve this trading strategy since you have the code to generate Figure #1. Increasing the performance level can be done in many ways. The above-cited book covered a few possible enhancements. Here is another.

You improve the win rate by 5%. It is not much but will reverberate over the entire trading interval. The profits from each of the added winning trades will compound over time, and it can make quite a difference. Figure #2 is the same chart as in Figure #1 but with the added 5%.

Figure #2: TQQQ Strategy : Win Rate + 5%

	52	weeks per year			
	100,000	init. Capital			
	0.0454	average win %			
	0.0271	average loss %			
	0.5409	win ratio	1.05		
Year	Weeks	# win	# loss	Expected Portfolio Value	Annualized Return
1	52	28	24	189,643	89.64%
2	104	56	48	260,718	61.47%
3	156	84	72	388,144	57.16%
4	208	112	96	616,603	57.58%
5	260	141	119	1,095,218	61.40%
6	312	169	143	1,884,288	63.13%
7	364	197	167	3,298,981	64.78%
8	416	225	191	5,835,330	66.25%
9	468	253	215	10,382,653	67.51%
10	520	281	239	18,535,373	68.58%
11	572	309	263	33,152,072	69.49%
12	624	337	287	59,357,790	70.26%
13	676	366	310	114,258,040	71.88%
14	728	394	334	204,769,566	72.39%
15	780	422	358	367,044,202	72.84%
16	832	450	382	657,980,166	73.24%
17	884	478	406	1,179,588,079	73.59%
18	936	506	430	2,114,758,871	73.90%
19	988	534	454	3,791,390,663	74.18%
20	1040	562	478	6,797,359,402	74.43%

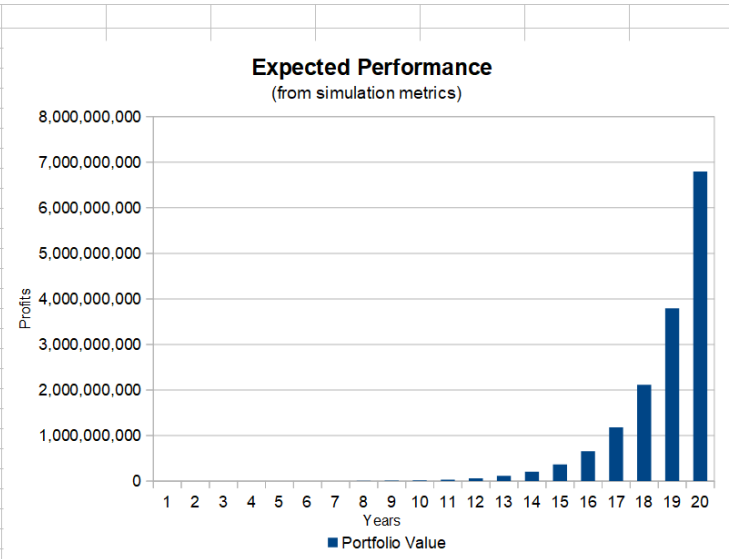


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Figure #2 shows the win rate passing from 0.5151 to 0.5409, a 5% increase. For example, in year one, we had a win/loss ratio of 27/25 in Figure #1, and now, in

Figure #2, we have that ratio at 28/24.

You moved **one** losing trade to the winning side in one year. It's not a big change. Since the win rate increased, the strategy will gradually generate more and more profits from that winning trade. The same will go for the other added trades over the years. You have to transform 15 negative trades into positive ones out of the 378 negative trades over those 15 years. Again, restating it is not that big of a job.

The difference gets larger and larger as the years progress. At year 15 in Figure #1, we had $87,159,390 or there about, and now in Figure #2, we have $367,044,202. And this is just for improving the win rate by 5% or adding one positive trade a year.

If you look at year 20 in those two charts, you will see an outcome difference of $5,748,291,395. That is what I estimate to be the value of your quest for this 5% win rate improvement.

We cannot say that the 5% increase is a big request. Nonetheless, whether or not you respond to that quest is up to you. Overall, your trading rules do matter.