

Quantitative Analysis in Trading & Investing



By Thomas Barmann

Quantitative trading relies on mathematical models or algorithms for identifying trading opportunities.

NeverLossTrading provides multiple algorithmic models for spotting and following institutional money moves.

The name NeverLossTrading derives from Never Stop Loss Trading, teaching techniques of trade repair instead of accepting the stop.

In this publication, we want to share and quantify prerequisites for trading success

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About the Author

His first introduction to trading came when he was 22 years old (more than 30 years ago). Over the years, he acquired a wealth of knowledge, how private investors can make money in the markets by focusing on system-specific entries, exits, and stops. The term NeverLossTrading does not promise that you never lose a trade; it originates from the idea of repairing a trade instead of taking the stop loss, and Never Stop Loss Trading was a bit lengthy.

He trades by taking advantage of his developed algorithms, helping to spot and trade along with institutional price moves, minimizing risk, and compounding interest.

He aims to make the world a better place by sharing knowledge and giving education. A very small group of people keeps the knowledge of how to trade the financial markets, and those who enter without being well prepared, mostly donate their money to those who know.

NeverLossTrading® and TradeColors.com are easy to follow, market-proven trading and investing concepts he is sharing with you.

For more information, please check:

Blog Posts: [WordPress](#) and [Blogspot](#)

Join our Facebook Community: <https://www.facebook.com/TradeWhatYouSee>

Experience a Live Interview at 52 Trades:
<https://52traders.com/thomas-barmann/https://52traders.com/thomas-barmann/>

Good trading,

Thomas Barmann

1. Introduction

The quantitative analysis builds the basis of our algorithmic trading systems, where we focus on spotting and following institutional money moves. Today, we want to evaluate critical success factors (variables) for trading or investing success in general. Applying quantitative analysis, we measure the influence those factors have on the return on capital (ROC) achievable.

The terms investing and trading will be taken synonymously; their difference is only in the intent of how long a position shall be held; behavior and action are the same.



Unfortunately, private investors tend to make financial decisions emotionally: buying stocks because they like the company, somebody gave them a stock tip, e.g.

We share in this eBook how to consider multidimensional decision-making models for finding and executing financial decisions with stocks, options, futures, FOREX.

We are applying quantitative analysis by:

- Quantifying the opportunity in its dimensions
- Acting only when the odds are in your favor
- Produce a minimum Return on Capital (ROC)

Private investors tend to apply min-max principles: minimum input, striving for maximum output; however, this is not an applicable choice and often leading to:

- Being underfunded (way below 80% investment rate)
- Overstating single positions
- Accepting too much risk by holding positions that did not work out

We rather follow a minimum principle by recommending to define a desired minimum investment return goal, like:

“I want to achieve a 5% return per month.”

Then we jointly work on what is needed to strive for this goal, analyzing multiple variables that influence the result, differentiating them in two major categories, and evaluating their scaling and importance:

- Financial Variables
- Knowledge Variables

Based on those variables, we will build an equation that determines a favorable or less favorable basis for achieving the desired result.

Key variables based on our empiric research, influencing the possibilities for achieving the desired ROC (return on capital) are:

Variables Influencing the ROC of Investments

Financial Variables	Knowledge Variables
<ul style="list-style-type: none">• Account Type• Amount of Trades• Capital• Risk Handling	<ul style="list-style-type: none">• System• Discipline• Strategies• Available Time• Trade Mechanics

In consequence, we can build the following equation considering factor weight and base variable:

Return Potential in % = A(Account Type) + B(Amount of Trades) + C(Capital) + D(Risk Tolerance) + E(System Strength) + F(Strategies) + G(Discipline) + H(Time) + I(Mechanics)

The letters A through I stand for the weight or the importance of the variable in the model.

By striving for a percentage return, capital is not a variable we need to consider, and such we take it out of the cohesion:

Reason: If one investor operates with a \$20k account, the other with a \$100k account and both strive for a 5% return, the amount of capital invested is not a determining variable.

In the next step, we will gauge and quantify the implications those variables can have on the achievable return and build a scoring model that lets us compare different variable combinations and their likelihood to support the desired ROC.

2. Variables and Scales

In the first step, we will quantify the scales of the variables and afterward determine the importance and weight of each variable.

A) Account Type/Flexibility

People invest in the financial markets through four different account types, allowing the different ways to go to market.

A **401(k)** plan is a tax-advantaged, defined contribution retirement-account offered by employers to their employees. You can make contributions to your 401(k) accounts through automatic payroll withholding, and your employer can match some or all of those contributions. The investment earnings in a

traditional 401(k) plan are not taxed until the employee withdraws that money. Mutual funds build the investment instrument, and we encourage you to appraise those with a trading system. Best base your investing decisions on weekly charts. We explain how to do that in our book: [My Stock Market Income](#). Plan providers encourage you not to trade in and out of mutual funds regularly, but we encourage you to do so. Think back to 2008 and what you could have saved just by going into cash when the crisis was on the horizon.

IRA, an individual retirement account, is a tax-advantaged investing tool that individuals use for retirement savings. There are several types of IRAs with different tax liabilities. The SEC applies specific rules to IRA's:

- Only risk-limiting trades are allowed; thus, you cannot short stocks or sell naked calls.
- You need to file paperwork for obtaining three levels of option trading ability: buying puts and calls or selling naked puts, debit spreads, credit spreads.
- Futures trading is allowed by some brokers.

Overall, with the right strategies on hand, you can follow all market directions from your IRA.

Cash accounts are the traditional brokerage account, and you are obligated to deposit the full cost of any purchases by the settlement date of the transaction. Transactions that require a margin are not allowed in cash accounts: Short selling stocks, Futures trading, margin-requiring option trading strategies, e.g.

Margin accounts: This type of account enables you to borrow certain amounts of money using cash or securities already in the account as collateral. A margin account enables your broker to loan shares to short-sellers, and with some extra paperwork to be

filled out, you can trade all options strategies and futures from this account.

FINRA and SEC rules always apply:

- Minimum holdings of \$25,000 for pattern day traders when you are opening and closing four or more day trades (opening and closing a stock position within the same day) in a five-day period
- Minimum holdings of \$25,000 to be able to short stocks

Quantifying the different account types by their flexibility to engage in various investment strategies, margin accounts score the highest (10), and 401(k) by the limited flexibility scores: 2.5.

Scale for Account Type

Account Type	Trade Potential	Day Trading	Comment	Score
401(k)	Mutual Funds only	No	Restricted	2.5
IRA	Permission-based	>\$25,000	Flexible	7.5
Cash	Limited	>\$25,000	Limited	5.0
Margin	All Trades Allowed	>\$25,000	Most Flexible	10

A) Number of Trades

There are about 250 trading days in a year. On about 50 days, nothing happens, and no directional bios can be followed; hence, we assume 200 trading days or 50 weeks. If we just consider 4h-, daily- and weekly signals, our systems on a conservative approach deliver the following number of annual signals (day trading not considered):

- 300 4h-Trades p.a. (1 to 5 days in a trade)
- 200 Daily-Based Trades, p.a. (1 to 10 days in trade)
- 60 Weekly-Based Trades, p.a. (1 to 10 weeks in a trade)

Desired returns are directly related to the number of trades opened and closed in the observed period.

For quantifying clusters concerning the number of trades conducted, we build a scale, where the participation rate

calculates the number of trades compared to 560 opportunities p.a. A trade potential of 560 trades demonstrates that, in general, private investors have more opportunities than money to invest.

Scale for the Number of Trades

Amount of Trades p.a.	50	100	150	200	More
Participation Rate %	9%	27%	36%	45%	>50%
Score	2	4	6	8	10

Calculating an annual trade potential of 560 assumes that you participate in more than one time-frame for your decision making and that your system can deliver constant opportunities.

Check if this holds true for your current system:

Aside from the number of trades, the share of capital investment is important. We generally prefer an 80% investment rate (capital engaged in trading), using 20% for overall capital for account protection like hedging or trade repair, in case needed.

B) Risk Handling

In trading, we assume for the potential of the trade; however, we can control the acceptable risk by our chosen investment amount and strategy. With this said, we differentiate the following ways of risk handling:

Scaling the Trade Risk Handling Methods

Method	Score
Variable investment amounts, adjusting stops and targets constantly.	2
Fixed amount per trade: \$10,000 e.g. with a 1% stop level.	4
Fixed amount with pre-trade, chart-based, stop, and target definition.	6
Category-based investing: \$5,10k,15k, e.g., risk and reward-based from the chart appraisal.	8
Odds-based investment amount and pre-trade, entry, and exit definition. Odds Ratio = Probability for Success x Average Win-Rate / (Probability for failing x Loss-Rate).	10

C) System

System and probability, is a big chapter, and we want to handle it as comprehensive as possible here:

There are only a few systems around that allow for high probability trading.

Standard indicators have a positive expectancy but rarely reach a 55% probability to predict future price moves of assets like stocks, futures, FOREX.

The reason for this lies in standard math used in moving averages, RSI, MACD, etc. portraying past price action into the future; however, price decisions in the markets are not made by this, they are rather erratic, and the price action of now is what needs to be measured and predicted into the future.

The underlying model of price action is not normal-distributed; it is rather erratic-distributed. The reason for this lies in financial leaders triggering an event: buying or disposing of assets, followers pick up the action, and trade with or against it, creating erratic price movements.

Thus, models that use a normal distribution fail, because it is not market applicable, and a mathematic needs to be applied that considers such elements.

If you like to get into that topic, check for [Mandelbrot Fractal Math](#), this is what we use and feedback the action of now to predict the future and thus reach predictability of 65% and higher. However, a fractal-based system will give a big number of potential trading opportunities, which we filter down, applying filtering techniques learned from the signal transmission.

When comparing a 55% system and a 65% system, why do 10% make such a difference?

Let us compare ten trades and the likelihood of making money by 65% and 55% predictability and calculate the statistical probability of six or more winners.

Probability of ≥ 6 Winners at 10 Draws (Bernoulli Experiment)

Winners	65% System	55% System
6	23.8%	23.8%
7	25.2%	16.6%
8	17.6%	7.6%
9	7.2%	2.1%
10	1.3%	0.3%
Sum	75.1%	50.4%

The table shows, when operating with a 65% likelihood, you have a 75.1% chance to achieve six or more winners, while with a 55% likelihood, you only have a random chance of 50.4% to win more than you lose.

Now, you see the importance of high probability for your future trading success.

Mechanical, Repetitive Rules with Little to no Room for Interpretation

Successful traders use a mechanical trading system. Surely not a coincidence.

A robust mechanical trading system automates the entire process of trading.

As a result, your trading shall cover every aspect of trading and leave virtually no decision to the subjective of interpretation:

Let your system provide the answers for each of your trading decisions. Following a system makes it easier for a trader to trade

consistently. Decide based on a set of rules, which specifically define what should be done: when to accept a trade and when not. Mechanics dominate your trading, little to no interpretation is left up to your judgment.

When you are convinced (back- and forward tested) that your system makes money long-term, it is easier to act on your signals and trade according to the system; in particular during periods of losses.

Only by using a mechanical trading system that works, and you follow it consistently, your trading will be consistent: Acting according to your system despite if you are coming from a series of losses or a large profit.

Components a Trading System Shall Provide

- Assets - What to buy or sell?
- Strategies – How to buy or sell?
- Position Sizing - How much to buy or sell?
- Entries - When to buy or sell?
- Stop or Adjustment Levels - When to get out of a losing position or adjust the trade.
- Exits - When to exit winning positions?
- Tactics - How to buy or sell?

Assets: What to buy or sell?

The first decision is: which assets to trade. If you trade too few assets, you significantly reduce your chances of participating where prices move. In case you spread your opportunities too wide, you might lose overview quickly and not see the forest because of the trees.

Entries: When to buy or sell?

Mechanical-based trading systems generate entry signals which define the exact price and chart condition to enter into a trade, whether by buying or selling the asset or entering into a directional price move with a derivative: Option or Future.

Stops: When to get out of a losing position?

Managing losing trades is critical for long-term trading success. At trade entry, pre-define the point where you will get out before you enter a position or as we demonstrated before: Have a trade repair strategy on hand that helps you to reduce losses or even turn losers into winners.

Exits: When to exit winning positions?

Many trading systems do not specifically address how to define the exit at entry. A robust and integrated trading system extrapolates at entry when to get out of a winning position. Only then will you be able to pre-program your success and act on clear cut rules.

Considering all this would require multiple sub-appraisal categories to be included. For keeping things simple, we just differentiate system strength by the probability for predicting the future price movement of assets:

Scaling for System Probability

System Probability	50%	55%	60%	65%	70%
Score	2	4	6	8	10

For reading more about this, check out our latest book:

Integrated Trading & Investing System

Successful traders and investors follow a system where multiple components are working in their favor and act mechanically with little to no room for interpretation



GUIDELINE TO ALGORITHMIC BASED TRADING AND INVESTING

THOMAS BARMANN

Book summary: Regardless if you want to trade for a living, manage your retirement accounts, or build wealth, you need a solid knowledge base to enjoy financial market success. This book describes the fundamentals needed to trade today's markets, regardless if you favor stocks, options, futures, or FOREX and if the markets go up, down, or move sideways. There is a certain amount of complexity to consider when operating in the financial markets; else, it would be easy to make money, and we want to help you with a concept on hand to de-complex the happening. In many detailed examples and graphics, you will be supported for establishing what is needed to participate in the financial markets our days. Learn the concepts and decide if you want to establish them on your own or trust into a market-proven system and concept.

This book will be eye-opening for you regardless of the stage of a trader or investor you are: You will learn in 16 chapters how to select the right assets by specified setups, position size, define your entries, exits, stops, stay engaged, and strive for continuous returns. [Link to Amazon...click.](#)

D) Discipline

As a trader or investor, you enter a professional business where those who accept your offer are prepared to win.

Trading, like all other professional tasks, requires a solid discipline to be successful. The discipline in trading requires you to:

- pre-agree the situations you trade on
- entry, exit, and stop or price adjustment level
- how you prepare for your trading day
- follow a written plan (financial plan and action plan).

In other of our publications, we detailed the requirements; here, we want to focus on the different levels of discipline and evaluating those by a scoring model:

Scaling for Discipline

Discipline Level	Trade Situations are freely chosen	Preferred Trade Situations are defined	Operating with a written Trading Plan	Following a written Action- and Financial Plan	Action Plan + Financial Plan + Trade Repair
Score	2	4	6	8	10

If you plan from the initiation of a trade, what to do to repair the situation, if the trade goes wrong, you drastically increase your chances of being successful. Thus, at trade entry, decide when and how to repair a trade, in case it goes wrong.

Trading and investing are based on probability thinking. You will never be 100% right. In case that you are wrong, and you can reduce your losses or turn losers into winners, the game changes for you. In particular, when you can pre-program all your action steps, so you do not need to be in front of your screen to execute strategies at target or apply a repair strategy. With the right concepts on hand and a modern online broker, all this is possible.

Let us again assume that you operate with a System giving you 65% probability. Let us further assume you can reduce your losing trades by 60% (and an achievable minimum rate, calculated by our statistics).

Example: 100 trades, the impact of applying trade repair based on a one-dollar win or risk calculates as follows:

Calculations of the Effect of Trade Protections on the ROC

Operating without Trade Repairs	Operating with Trade Repairs
100 Trades at 65% 65 Dollar Gain 35 Dollar Risk/Loss 30 Dollar Balance	100 Trades at 65% 65 Dollar Gain $35 \times 0.4 = 14$ Dollar Risk/Loss 51 Dollar Balance 70% Higher Return

The calculated results show that applying trade repair strategies instead of accepting the loss has the potential to improve your financial results by 70%.

Those skills can be learned and are important in striving for trading success.

We help our clients to keep the discipline needed by providing a business plan for trading success:

- Spelling out in a financial plan the number of trades per strategy to get to the desired results with adequate maximum risk acceptance.
- In an action plan, we describe with you, which trade situation to accept, how to repair trades, and appropriate percentage investment amounts.
- In the financial and action plan, we consider how much time you can dedicate to analysis and trading, tailoring everything to your wants and needs.

E) Strategies

As a trader or investor, you have several ways of going to market; we want to categorize them as follows:

Scale for Strategies

Trading Method	Directional Opportunity	Score
Investing in Stocks	Long only	2
Stocks	Long and short	4
Stocks in Combination with Options	Long and short with covered stocks and covered calls/puts	6
Stock and Option Strategies	Stocks long and short, Stocks with Options, Options Trading	8
All prior plus Futures Trading	Speculation and hedging with Futures and all prior strategies	10

By being able to choose the best applicable trading strategy, you increase your participation rate, decrease your risk exposure and such, bend the odds in your favor.

F) Available Time

In general: The more time you can spend with trading, the better you will be on. When we separate available time for trading into the following categories:

Average Time to be Invested for Trading

Available Time	Percentage
Trade Finding	70%
Trade Preparation	10%
Trade Execution	10%
Journaling and Accounting	10%

Letting us categorize the available time as follows:

Scale for Available Time for Trading

Available Time for Trading	1h/day	2h/day	3h/day	4h/day	5h/day
Score	2	4	6	8	10

A game-changer comes into play when you give yourself the ability to cut down on time for finding trades: This can be done, for example, by subscribing to an Alert service like the [NLT Alerts](#). With the help of an alert service, where we save you the time for trade finding, you can operate at a 4h/day level by just investing one hour per day. For sure, a nice way of engaging in trading with minimal effort on time, assuring you that available time is not the most limiting factor for your trading success.

G) Trade Mechanics

Here, we differentiate how to enter, control, and exit trades.

Scale for Trade Mechanics

Method	Score
Manually entering, opening, or closing orders after market opening	2
Entering orders pre-market and letting the system execute those, while you do not need to be in front of the screen	4
Setting buy-stop or sell-stop orders and those entering only when your price direction and conditions are met	6
Operation with buy-stop or sell-stop orders with OCO conditions	8
Executing conditional orders, offering limits and repairing trades automatically for stocks, options, futures	10

The most efficient traders do not need to control trades from the screens, the program does it for you and orders fulfill themselves based on your conditions.

3. Factor Weights

If all variables were of the same weight, each would be at 12.5% of 100%. However, this is not the fact, and we want to share our empirical results of the factor weight or importance.

A) Overview of Factor Weights

Variables	Importance
Account Type	5%
Trades p.a.	10%
Risk Handling	15%
System Probability	25%
Discipline	15%
Strategies	15%
Available Time	5%
Mechanics	10%

In the next step, we compare two IRA traders: Trader A and Trader B, applying the scoring model we developed. The two traders differ in the following variables:

- Risk Handling: Trader A applies a static fix percentage stop, while Trader B conditions odds-based the investment volume and appraises the risk by the chart.

- System Probability: Trader A uses a standard system with a 52% probability, while Trader B operates on a high probability system with a 65% probability.
- Discipline: Trader A chooses trade situations freely, and Trader B follows a trading and financial plan.
- Available Time: Trader A has 1h/day while Trader B invests 2h/day.

B) Scoring Model and Comparison

Variables	Importance	Trader A	Score	Weighted Score	Trader B	Score	Weighted Score	Factor
Account Flexibility	5%	IRA	5	0.25	IRA	5	0.25	1
Trades p.a.	10%	100	5	0.5	100	5	0.5	1
Risk Handling	15%	static	5	0.75	1% - 5%	10	1.5	2
System Probability	25%	52%	2	0.5	65%	8	2	4
Discipline	15%	Free Decision	2.5	0.375	Trading & Financial Plan	8	1.2	3.2
Strategies	15%	two	4	0.6	four	8	1.2	2
Available Time	5%	1h	2	0.1	2h	4	0.2	2
Mechanics	10%	manual	2	0.2	auto	4	0.4	2

Total	100%		27.5	3.275		52	7.25	17.20
Factor Difference						190%	220%	

The results tell us that Trader B has a 220% higher likelihood of being successful in striving for the desired return than Trader A. In reality, this means, Trader B has a chance to produce the desired return, Trader A does not. If you want to learn how to act like Trader B does, by putting system probability, discipline, risk handling, multiple strategies, trade mechanics, and a reduced amount of time into your skill and knowledge portfolio:

Call **+1 866 466 4520** or contact@NeverLossTrading.com

What if you compare different accounts: IRA and 401(k)? IRA holders have substantial advantages on multiple variables over 401(k) holders by being able to differentiate in the following variables:

IRA to 401(k) Variables for Differentiation

- **Account Flexibility:** with a 401(k) account, you can only place orders end of the day for execution by the end of the next day, which surely restricts, but when you consider the additional action points we share here, you can still better your overall results.
- **Trades p.a.:** IRA accounts allow you an unlimited number of trades without restrictions. On 401(k), only a limited number of mutual funds are offered, with limited allowed transactions per month.
- **Risk handling:** IRA accounts allow various risk handling strategies. The limited number of investment vehicles offered in 401(k) plan, exposes you to a much higher risk: most plans do only offer to buy and hold or going into cash; some plans offer reverse developing funds, giving you the ability to participate when asset prices fall.
- **System probability:** in both account types, you can get yourself in a much better position when working with a high probability system. IRA's allow you to appraise trade setups on multiple time frames. On 401(k) accounts, we see weekly charts as the best fit.
- **Discipline:** For both account holders, we highly recommend to follow an action plan and a financial plan to achieve a structured success. Trade repair in the 401(k) account is not possible; however, we teach methods of how you can hedge and repair your investments in a separate account.
- **Strategies:** 401(k) accounts are limited to buy and hold, while in IRA accounts, all risk-limiting strategies are allowed. The advantage of still operating with strategies of how to shift funds into more promising funds gives the prepared 401(k) holder an edge over the ones who do not prepare.
- **Time:** In your 401 (k) account, an hour a week is sufficient to act, while we recommend that you act by alerts you can set on a trading platform and shift your holdings accordingly. IRA's allow you for unlimited trading, and you should take advantage of this.
- **Mechanics:** On 401(k) accounts, mechanical trade entries are the only alternative offered, while IRA's allow you to operate with the abilities of modern trading platform and automate your trading.

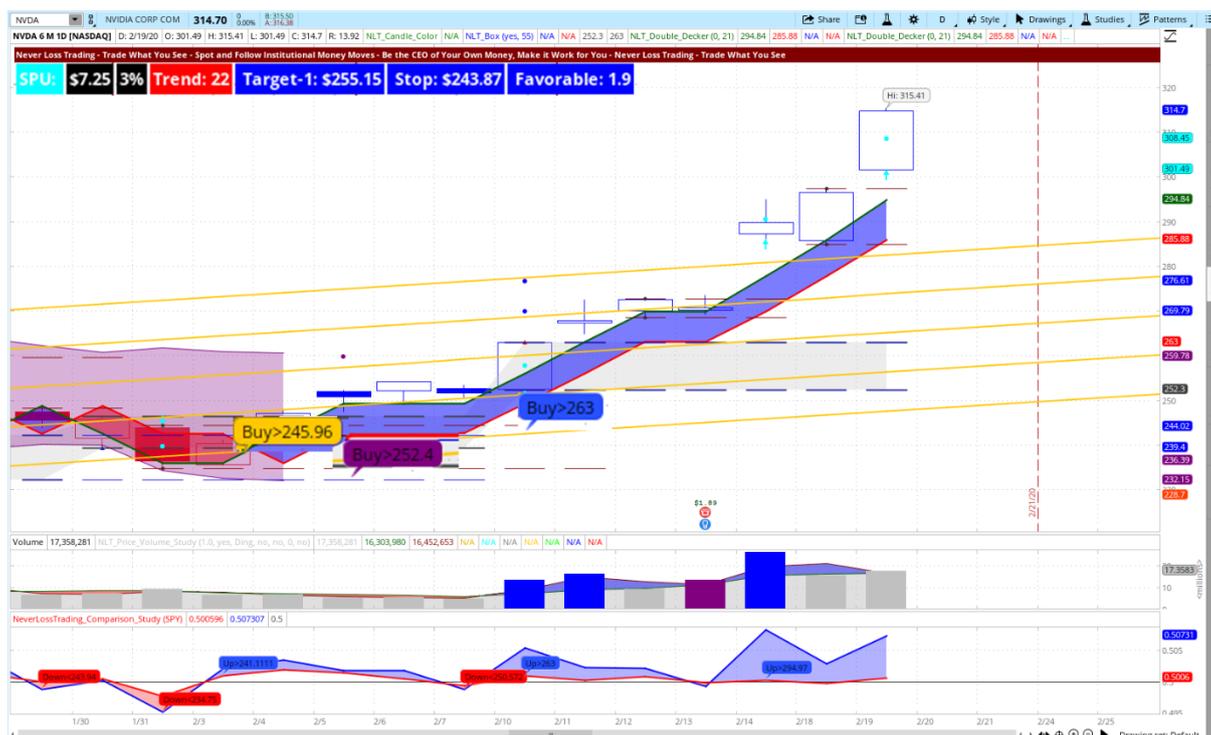
IRA investing compared to a 401(k) plan, allows for higher returns. When comparing two 401(k) investors, the one who is prepared, disciplined, organized, operating with high probability, will achieve higher returns long-term. The same counts for all other account comparisons. Learn a structured way to trading success: contact@NeverLossTrading.com

4. Examples of Quantitative Analysis in Trading

Let us share two examples, how high probability systems are putting the principles of quantitative analysis on a chart for you. Aside from the advantage of using a strong system, we help you in our mentorships to follow all critical success principles.

On the charts, you will see clearly spelled out price thresholds: Buy > \$263, and you only enter if this threshold is surpassed in the next candle. With the help of dots on the chart, you will see positive exits. Besides: stops and exits are visible on the top left of the chart, followed by a risk/reward appraisal: Favorable 1.9 means that the system identified a trade setup that has an opportunity of \$1.9 return for every one-dollar of risk you accept.

NVDA, NLT Daily Top-Line Chart, 2-19-2020



The chart shows three buy signals with clearly spelled out price thresholds:

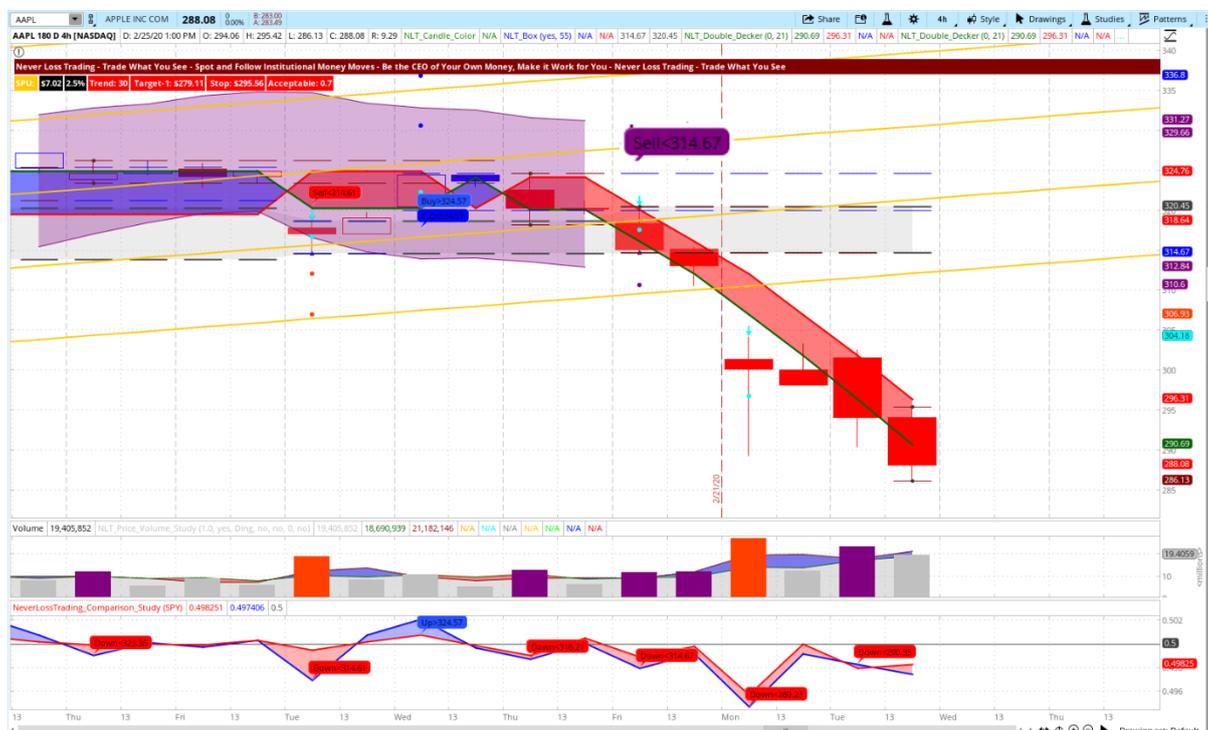
- Buy > \$245.96 in orange, announcing a strong potential for a directional change.
- Buy > \$252.40 in purple, announcing that ambiguity in price finding is over, and an uptrend is expected that can be trailed with the red line on the blue price frame on the chart.
- Buy > \$263 in blue: NLT Power Tower signal, standing tall and pointing a direction.

Was it complicated to follow what you saw on the chart?

Now you know why we proclaim: Trade what you see!

Our indications sure also work on downside price moves:

AAPL, NLT 4h Top-Line Chart, 2-25-2020



A quick chart analysis gives you the following insights.

From left to right, you see:

- After a period of ambiguity in price development, characterized by the purple zone. When the zone ends, we expect a strong price move, and through Sell < \$314.67, the signal appeared on the chart.
- The NLT Light Tower and Cyan Arrow indicate a strong price pressure to the downside.
- If you were not able to short sell AAPL, you were able to follow the direction through buying puts or by arranging vertical spreads (debit or credit).

Let the chart tell when to buy or sell!

For getting those key determining success factors into your knowledge and skillset, schedule your personal consulting hour:

Call +1 866 455 4520 or contact@NeverLossTrading.com

We offer multiple systems and will find out what suits you best. By working one-on-one, spots are extremely limited.

[Subscribe](#) to our free trading tips, reports, and webinars.

We are looking forward to hearing back from you.

Good trading,

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