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Rational choices in an uncertain market

won't go into much details just want to explain each one as simple as possible.

gian @godcomplex96

rules that are going to help u more.

1. risk mgmt.
2. h. odds profit seeker - m. odds capital preservation
3. risk premia harvesting
4. high sqn for each condition
5. beta is your friend
6. assymetric risk
7. focus on value not price
8. system over goals
9. qualitative mindset

Blackbeard @crypto_blkbeard · Dec 25
7 Golden Rules Investing in Crypto

1. Don't panic sell
2. Take profits on the way up
3. Don't use leverage
4. Have some stables to btfd
5. Diversify
6. Don't chase green candles
7. Fear means opportunity

1/ Risk Management:

It always comes to my surprise that this is such an overlooked topic when it's in fact, the most powerful tool to keep playing the game.

Caution may reduce returns but would ensure survival

There's a very simple concept that people who want to become a trader/investor need to understand. *You can manage risk, but you can't manage returns.*

Most Market participants are obsessed with outperforming the market with non-realistic targets, and it reduces to a single behavior: **Greed**

Greed can make people myopically focus on potential rewards and completely neglect any added risk.

Risk Management is the only tool we will ever have in control while Trading and **indispensable** to have success.

at the end of the day we all are Gamblers.

gambling, the betting or staking of something of value, with a consciousness of risk and hope of gain, on the outcome of a game, a contest, or an uncertain event whose result may be determined by chance.

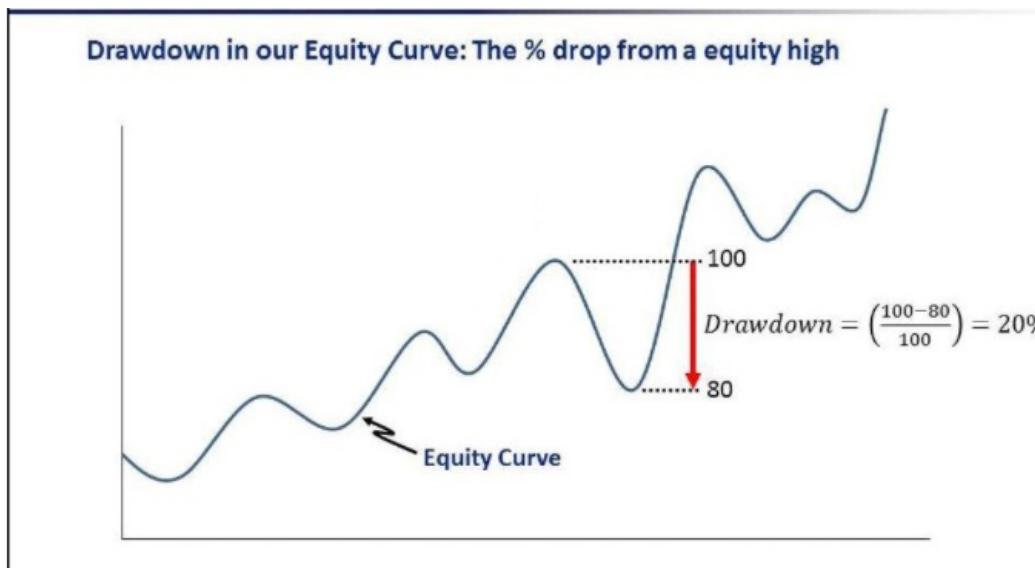
We more often than not see that gambling is used with a negative connotation and this is because most of the participants are just miscalculating their bets, relying purely on variance inclining their position to an EV- outcome.

expected value, a predicted value of a variable, calculated as the sum of all possible values each multiplied by the probability of its occurrence.

With proper knowledge of sizing based on the frequency of each situation we face, we can positively skew our expected value in the long-term.

So, how can we apply proper Risk Management?

First of all, we need to understand what a Drawdown is.



Drawdown is simply a fall in your total equity caused by trading losses or positions moving against you. Basically, is just the erosion in capital from the peak before.

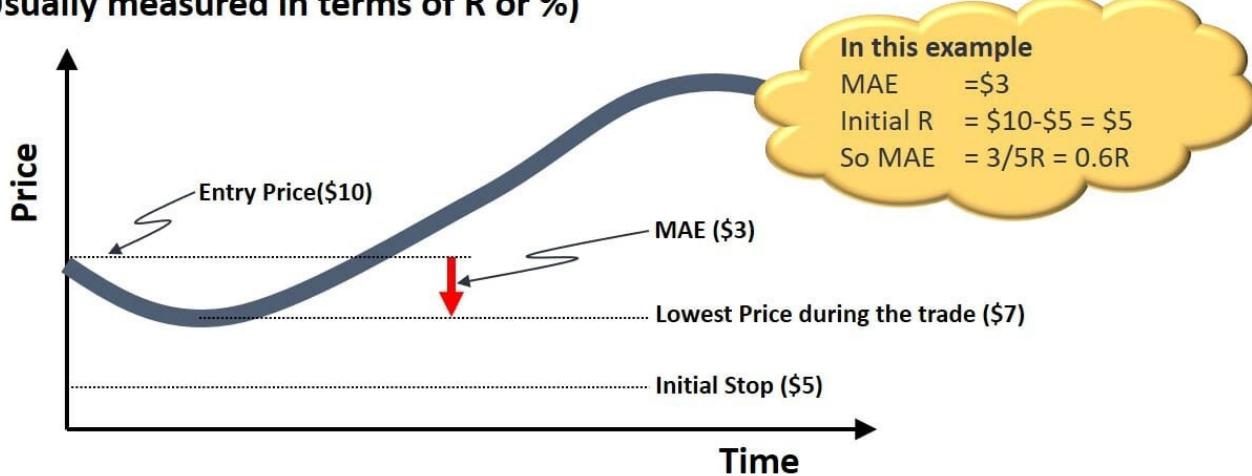
Drawdowns are unavoidable, all trading systems and strategies have them since it's impossible to have a 100% win rate — the depth and the duration may vary depending on our system and variance.

At any point on your equity curve, you're looking forward to see what the largest percentage decline is from an equity high to a subsequent equity low. This percentage decline is the drawdown that your trading system experienced from that point.

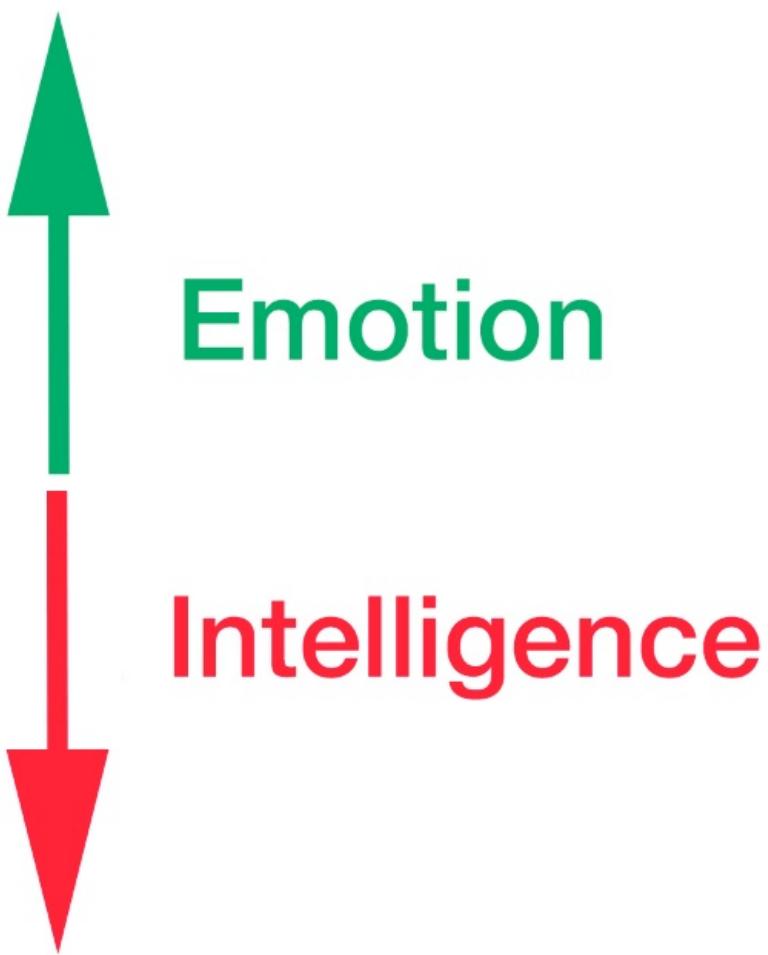
Your ability to follow your system can be sabotaged by an individual trade. Even if that individual trade is within the bounds of what's normal for the system and even if you're not in a bad drawdown at a system level, one trade can still cause you concern.

When you are looking at individual trade drawdown, you use the maximum adverse excursion from the entry of your trade to understand how far each trade can move against you according to your backtest. The Maximum Adverse Excursion (MAE) on a trade can be much higher than your portfolio level drawdown tolerance because many trades combine together to form your portfolio, so they tend to smooth each other out in the portfolio.

**Maximum Adverse Excursion (MAE) is a measure of how far a trade moves against you
(Usually measured in terms of R or %)**



The trouble we tend to have is that our animal instincts kick in — whenever we feel threatened, we move into “Fight or Flight” mode. It is a survival instinct that is hard to avoid (something to do with a few million years of evolution — When we feel threatened as a species, humans stress levels go up and our blood is redirected to our muscles to get us ready to either fight for survival or run. The problem with this is as soon as this happens, our intelligence falls because our body is ready for action... it is no longer ready to make rational and sometimes complex financial decisions.



The bigger the size of the drawdown, the more we feel threatened and the more stress we feel, so the lower the intelligence and the worse financial decisions we are likely to make.

The key to managing your trading psychology when it comes to drawdown is to understand our drawdown tolerance.

Once you know your drawdown tolerance level you need to ensure that your portfolio drawdown remains below that level, so you can continue to trade without being emotionally compromised.

Second major reason you need to control your drawdowns and ensure they are small is your ability to recover to new equity highs. The asymmetry of drawdown recovery is one of the most challenging aspects of trading.

Drawdown% in Trading Capital vs Return% to Get Back to Even.

-5%	5.3%
-10%	11.1%
-15%	17.6%
-20%	25.0%
-25%	33.3%
-30%	42.9%
-35%	53.8%
-40%	66.7%
-45%	81.8%
-50%	100.0%
-55%	122.2%
-60%	150.0%
-65%	185.7%
-70%	233.3%
-75%	300.0%
-80%	400.0%
-85%	566.7%
-90%	900.0%
-95%	1900.0%

Determine system maximum drawdown (MDD) based on backtest

There are many ways to determine your maximum drawdown. Monte-Carlo Simulation is one of many examples.

If you multiply the maximum historical drawdown by 1.5, then you'll get an idea of how bad it really could get.

There are some other tools that you can use because the shape of your equity curve in the past, in your back test is determined by the sequence of events that happened in the past. But a different sequence of events could play out in the future.

So even if drawdown profiles overall outcomes are exactly the same, due to variance drawdowns could vary a lot one from the other

What Monte-Carlo simulation of the equity curve allows you to do is randomly re-sequence the daily changes in your backtest equity curve to see how good or bad your system could get when the daily changes happen in a different, randomised order. When you do this analysis you can see how your portfolio equity curve might look with thousands of randomly generated sequences of trading days:

Within each of these thousands of simulations, the maximum historical drawdown will be different. So by analysing all of these equity curves, you can get a probabilistic understanding of the range of possible max drawdowns from your trading system.

Position sizing strategies tell you how much throughout the course of a trade.

Allows you to:

- Maximize your chances of achieving X%

- Minimize your chances of having a drawdown as big as Y%
- Combination of Both

There's a study made by Brinson, Singer & Beebower (1991, Journal of Finance) where they tracked 82 Portfolio Managers over 10 years.

HOW MUCH accounted for over 91% of the performance variability.

Your system is a distribution of R-multiples with a mean value equal to its expectancy, which tells you given your initial risk what percentage of that or what multiple of that you will make on the average patron.

Through Position Sizing, you equate R, and we can do that through a process called CPR

C = Cash or Total Risk Per Position

P = Position Size or How Much

R = Risk Per Unit

Formula: $P = C/R$

Example:

Total Risk/Cash	Risk / Unit	Position Size
C	R	P
\$ 1.000,00	\$ 100	10
\$ 1.000	\$ 10	100
\$ 1.000	\$ 1	1.000

Formula

Capital	Risk	Result	New Equity
\$ 100.000,00	\$ 1.000	-1R	\$ 99.000,00
\$ 99.000	\$ 990	-1R	\$ 98.010
\$ 98.000	\$ 980	-1R	\$ 97.030
\$ 97.030	\$ 970	-5R	\$ 92.180
\$ 92.180	\$ 921	10R	\$ 101.390

Position Sizing Example

You had four losses in a row, only one gain so you only were right 20% of the time and you still are ahead. That's Position Sizing function.

The **Van Tharp Expectancy** concept builds on the original idea of R-Value/Multiples. It uses the fixed percentage risk model to forecast returns. The Van Tharp Expectancy concept can also be used as a metric to assess parameters when optimising a trading strategy.

Let's use two different systems as an example:

The total-R of **system one** equates to 10R

The total-R of **system two** equates to 2R

Therefore, **system one** has an expectancy of 1.0 where a **system two** has an expectancy of 0.2.

So for every dollar risked on **system one** you can expect to profit \$1. For every dollar risked on **system two** you can expect to profit \$0.20.

Based on this we could assume that **system one** is the winner. However, there is another metric that needs to be evaluated.

Van Tharp calls it the **Opportunity Factor**:

	Opportunities	x	Expectancy	Value	=	Profit
System One	\$ 50		1.0	\$ 1		\$ 50
System Two	\$ 500		0.2	\$0.2		\$ 100

If over “X” period of time system one produced 50 opportunities, that would be 50 times an expectancy of 1.0 equaling \$50. System 2 however, produced 500 opportunities, which would be 500 times an expectancy of 0.2, equaling \$100.

Based on this our ideal system would be one that has the highest expectancy as possible with the highest amount of opportunities.

Now that we covered the importance of Opportunities and Expectancy lets go back to Position Sizing and why it is so important.

Money management basically answers the question of your system of “How much?”

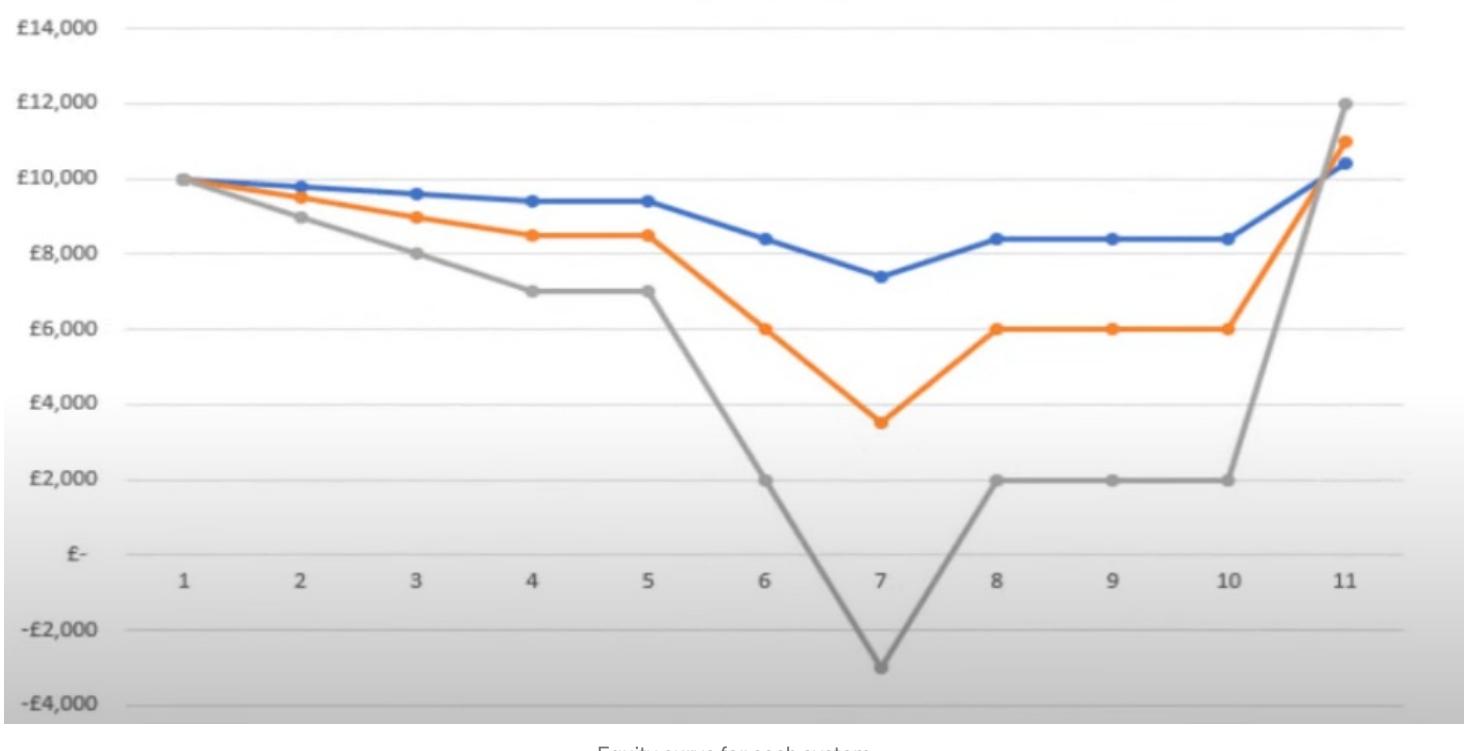
Using system two as an example, which gave less positive expectancy but more opportunity, let's see how three different accounts balanced differ using different position sizings.

Trade	R = \$200	R = \$500	R = \$1000
	Account 1 (2% Risk)	Account 2 (5% Risk)	Account 3 (10% Risk)
Balance	\$ 10.000	\$ 10.000	\$ 10.000,00
Outcome			
-1R	\$ 9.800	\$ 9.500	\$ 9.000
-1R	\$ 9.600	\$ 9.000	\$ 8.000
-1R	\$ 9.400	\$ 8.500	\$ 7.000
0	\$ 9.400	\$ 8.500	\$ 7.000
-5	\$ 8.400	\$ 6.000	\$ 2.000
-5	\$ 7.400	\$ 3.500	-\$ 3.000
5	\$ 8.400	\$ 6.000	\$ 2.000
0	\$ 8.400	\$ 6.000	\$ 2.000
0	\$ 8.400	\$ 6.000	\$ 2.000
10	\$ 10.400	\$ 11.000	\$ 12.000

Account 1 saw a maximum drawdown of 26%, Account 2 a 65% drawdown, Account 3 over 100% drawdown a.k.a blown up the account.

Same system, completely different performance.

Position size / Equity curve



Equity curve for each system

The drawdowns are incredibly different, but the end results are very similar.

Many people ignore completely money management and their mathematical odds of failure are simply very high because of their Position Size.

One of the most known formulas to calculate what percentage of their money they should allocate to each investment/bet while diversifying is **Kelly Criterion or Partial Kelly Criterion**.

The Basics of the Kelly Criterion

There are two basic components to the Kelly Criterion. The first is the win probability or the probability that any given trade will return a positive amount. The second is the win/loss ratio. This ratio is the total positive trade amounts divided by the total negative trade amounts.

These two factors are then put into Kelly's equation which is:

$$K\% = W - \frac{(1 - W)}{R}$$

where:

$K\%$ = The Kelly percentage

W = Winning probability

R = Win/loss ratio

The output of the equation, $K\%$, is the Kelly percentage, which has a variety of real-world applications. Gamblers can use the Kelly criterion to help optimize the size of their bets. Investors can use it to determine how much of their portfolio should be allocated to each investment.

2. Calculate "W"—the winning probability. To do this, divide the number of trades that returned a positive amount by your total number of trades (both positive and negative). This number is better as it gets closer to one. Any number above 0.50 is good.
3. Calculate "R"—the win/loss ratio. Do this by dividing the average gain of the positive trades by the average loss of the negative trades. You should have a number greater than one if your average gains are greater than your average losses. A result of less than one is manageable as long as the number of losing trades remains small.
4. Input these numbers into Kelly's equation above.
5. Record the Kelly percentage that the equation returns.

2/ high sqn is a priority

One way to qualify and optimize any system is through its System Quality Number (SQN) other options are D-Score.

The Van Tharp SQN looks to solve some of the problems with the PF (Profit Factor) and SR (Sharpe Ratio) metrics. Using a time input, The Van Tharp SQN looks to prioritise trading strategies with a more extended and, thus, more reliable trading history.

By also using the StdDev of R-Multiples, it also aims to prioritise consistency in returns. The idea behind this is that a trading strategy with better consistency in its returns will be more reliable.

Assuming a set of N trades (N>50 for being statistically significant), we define SQN as follows:

$$\text{SQN} = \text{Squareroot}(N) * \text{Average}(\text{of the } N \text{ Profit\&Loss}) / \text{Std dev}(\text{of the } N \text{ Profit\&Loss}).$$

- The larger the N, the more trading opportunities you have.
- The larger the average P&L, the better you are performing.
- The smaller the Std dev (P&L), the more regular are your results and the smaller are the drawdowns.

The higher the SQN, the more you maximize in fact the product N*average P&L and you minimize the Std dev (P&L) and the drawdowns at the same time.

3/ Profit seeking vs Capital Preservation

Like we talked above about EV and why is it so important? EV is simply the average result over several trades.

Mathematically, it is the sum of the probability of winning/losing in a trade multiplied by the magnitude of that winning/losing trade.

When our probabilities are very high of succeeding we can go for “Profit Seeking” which would be willing to accept a greater risk tolerance in exchange for the potential of much higher returns based on the probability of the outcome. The total opposite when our odds are lower, we need to mainly focus on Capital Preservation.

4/ Risk Premia Harvesting

The basics of risk premia harvesting are:

- Intentionally expose your portfolio to diverse **sources of risk that tend to be rewarded**.
- Manage risk sensibly so no risk dominates at any time.

In the long run, the expected return of any investment strategy is related to its exposure to systematic, un-diversifiable risk.

The intuition on time-varying risk premia is quite simple: the willingness of market participants to take on systematic risk varies

with their economic expectations. When the business outlook is positive, investors' risk appetite surges with an increasing demand for risky assets offering participation in economic growth. As a result, the prices of risky assets increase along with pressure on risk premia (discount factors) which decreases expected returns. When the outlook is bleak, the demand for risky assets declines, and this is accompanied by tumbling prices and increasing risk premia, which push up expected returns. So, expected asset returns fundamentally correspond to changing business conditions.

Managing global business cycle risk is done by taking exposure to macro factors in the asset allocations



Strategic asset allocation determines an investor's long-term participation in global economic growth. Strategic decisions on the equity quota of a portfolio, the country and sector allocation in equity markets, the allocation to fixed-income assets, the duration and credit quality of bond investments and the currency allocation constitute the investor's playground for harvesting asset class premia linked to the long-term development of the global economy. It is common knowledge, however, that economic growth reveals cycles and frictions, resulting in risk premia varying considerably over time. If the investment horizon is long enough, this should not detract from the effectiveness of a strategic asset allocation in the long run. Yet, in many cases, investment horizons are much shorter, requiring tactical elements in an investment process to smooth the performance curve generated by investing in asset class premia. Conditional asset pricing models and accompanying empirical research allow for tactical asset allocation implementation procedures to support the timing of exposure in asset classes. Their goal is to stabilize the results of investment strategies that harvest risk premia in the market place.

5/ Beta is your friend

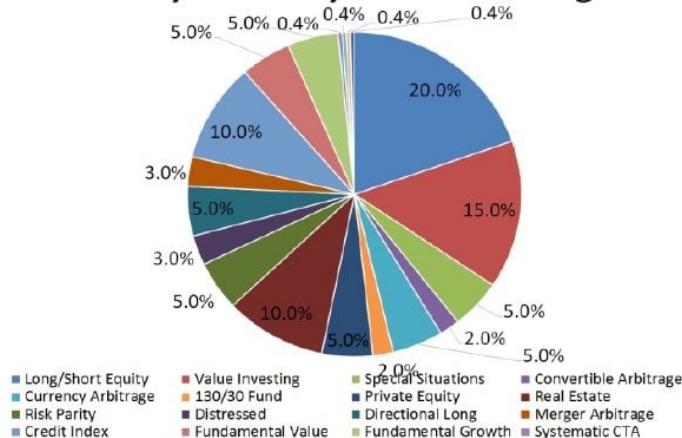
What is beta? So basically, Beta is a measure of the volatility — or systematic risk — of a security or portfolio compared to the market as a whole.

A beta coefficient can measure the volatility of an individual stock compared to the systematic risk of the entire market. In statistical terms, beta represents the slope of the line through a regression of data points.

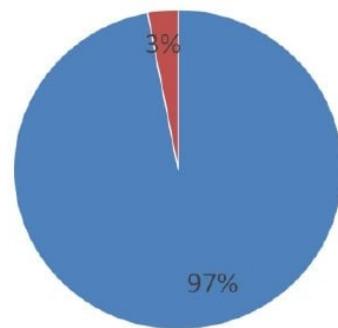
Volatility is the Only Real Asset Class

In the real world... there are two asset classes... long and short volatility

What you think you are investing in



What you actually are investing in



Everything is correlated, so most of the times is definitely exploitable.

Altcoins are just simply a vehicle for leverage. Beta of each coin just simply shows you the correlation and volatility attached to the main asset, a.k.a Bitcoin in this case.

Identifying which coins have the highest beta, allows you to maximize returns while having a tight profile risk giving us the most valuable approach to maximize EV+.

Spaghetti chart or Z Score dashboard are great ways to seek the highest beta assets.



Z-Score Dashboard

6/ Assymetric risk

Asymmetrical risk is the concept of taking a risk that will produce a return that far surpasses the risk taken.

An asymmetric investing strategy leverages positive risk-reward opportunities for maximum returns.

Identifying situations when the upside investing potential is much greater than the potential downside, or the downside is limited, but the upside is unlimited.

For someone with a relatively small portfolio the most profitable risk-reward opportunities are going to be found in small-caps.

Despite being earlier stage companies and more vulnerable to failure and short-term volatility, small-caps offer unlimited upside potential, relative to limited downside potential.

One of the best strategies for medium sized or above individuals is **Synthetic pairs**, which i won't go into details but this is a summary:

What is a Synthetic pair?

synthetic currency pair or synthetic cross currency pair is an artificial currency pair which generally is not available in market but one needs to trade across those pairs.

Synthetic pair trades introduce an additional avenue for risk management into your portfolio because they are isolated from shifts in the overall market trend. You can further decrease your portfolio risk by diversifying your synthetic pair. For example, if you build your long and short legs around three assets each rather than one, you reduce your vulnerability to asset-specific black swan events. Note, however, that over-diversification creates stationarity in a portfolio.

As you become more comfortable trading synthetic pairs, you can increase the profitability of your trade by regularly rebalancing your portfolio and using your net Δ positioning to expose yourself to movements of the broader market.

Broadly speaking, synthetic pair exposure grants the following benefits:

- Greater price efficiency
- Additional trading opportunities
- Reduced noise

7/ Focus on value not price

value ≠ price

Value, what is value?

the regard that something is held to deserve; the importance, worth, or usefulness of something.

a fair return or equivalent in goods, services, or money for something exchanged

Value, way more often than not is completely subjective. It is simply an opinion and it will change based on who you ask, if they ask me what i value more in this current-moment one bitcoin or a piece of meat, I'm going to choose the first option, but someone who's dying of hunger and instantly needs to get fed it's going to choose the option two.

So, if its subjective, how can we give a proper method of valuation in the market?. There are many models to quantify if something is in its "fair value" or not, I won't go into quant shit because I simply don't have the knowledge to do so. I rather use a much simpler way to quantify it.

Based on Market Profile, we could technically visualize the fair-value of each given session based on a Normal Distribution

Curve.

The area where 70 percent of the day's business is conducted (roughly one standard deviation) is called the value area. This is logical, for the middle part of the bell curve is where most activity occurs and indicates two-sided trade took place in the day timeframe.



First we need to understand what **Locals** and **Othertimeframe** Traders are

We can see the Locals as “Middleman” between these two long-term participants (Othertimeframe Traders). They are the ones who profit from very small gains acting as intermediaries between Othertimeframe Sellers and Buyers.

Locals or floor traders conduct the business. They position themselves between the flow of outside buy orders and outside sell orders (orders placed predominantly by off-floor, other timeframe participants).

Why it is so important in Ranging-Balanced Markets:

Markets trend only 20 to 30 percent of the time. Failure to recognize this is one of the main reasons why numerous traders don't make money. Many of the popular technical systems are trend-following systems that require sustained price movement to be successful.

Initiative versus Responsive Activity

Initiative = Any buying or selling activity occurring within or above the previous day value area or below if selling. Initiative indicates strong conviction.

Responsive = Buyers respond to price below value area, and sellers above value area.

Keep in mind that if price auctions down and finds buyers, that alone is not responsive. It's the fact that price is below value that makes the buying responsive.

In a range, both the other timeframe buyer and seller become Responsive parties.

As price nears the top of the perceived range, the seller responds and auctions price downward through the range or equilibrium range. In turn, the responsive buyer enters and rotates price back to the upside.

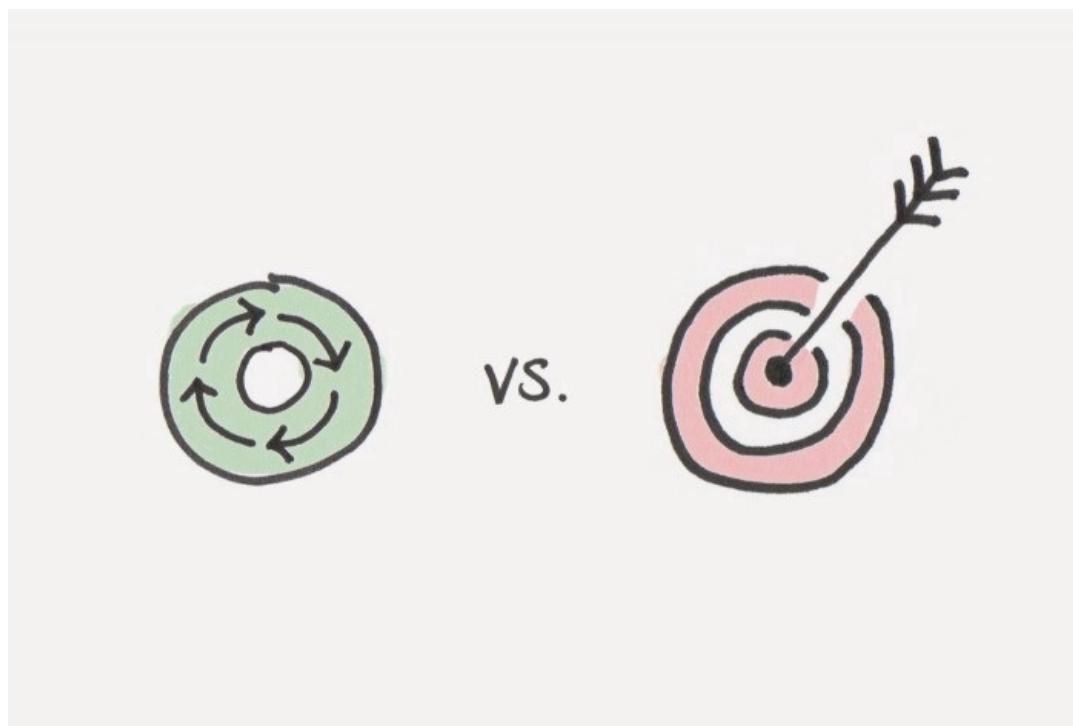
A lot of times we might see discrepancies between Price and Value through the Market Profile. The trade facilitation process is seldom so ideal, however. Often there are more other timeframe buyers than sellers — causing the local's inventory to become overloaded. For example, if an unusually large number of sell orders enter the market, the local's inventory begins to accumulate to a point where he gets "too long." In other words, the local has purchased too much from the other timeframe seller. If the other timeframe buyer does not appear relatively quickly, the local must bring his inventory back into balance in some other way. One's first thought would be that the local simply needs to sell off his excess inventory. However, this is not so easy, for reversing and selling would only serve to accentuate the selling that is already flowing into the market. Therefore, his first priority is to stop the flow of outside sell orders by dropping his bid hoping the market will stabilize and he can balance his inventory. If lower prices do not cut off selling, the local may then be forced to "jump on the bandwagon" and sell (liquidate) his longs at a lower price.

If we can identify the imbalance before it corrects itself, we can capitalize on the discrepancy between it. Tails and range extension are more obvious forms of other timeframe presence. But sometimes price simply extends from the value without any Initiative Activity and we can jump with the Other timeframe Sellers or Buyers if we are getting a Discount or a Premium and profiting from a callback to the mean.

The point of control is one of our most important tools to identify these patterns, because it indicates the price where the most activity occurred during the day and is, therefore, the fairest price in the day timeframe (price x time = value).

When price moves without a migration of our POC we can assume that Locals are filling more than they can handle and price will revert to the mean, if we had a Migration of the POC we can assume that Other timeframe Buyers or Sellers are active on their aggressive intention of moving the value of the asset.

8/ System over goals



Forget about goals, focus on systems instead

A goal is the result you want to accomplish. Systems deal with the processes that lead to results.

The conventional wisdom suggests that the best way to achieve something is to set specific and realistic goals. The thing is that if you completely ignored your goals and focused only on your system, you would still succeed.

Here are some of the main issues of just having goals:

- Successful and unsuccessful people share the same goals, therefore the goal can't be what differentiates "winners" from "losers".
- Achieving a goal only changes your life just for a moment in time.
- Goals can create an either-or conflict. Either you achieve the goal and succeed, or you don't and you are a failure. Even if you were making progress in the right direction.

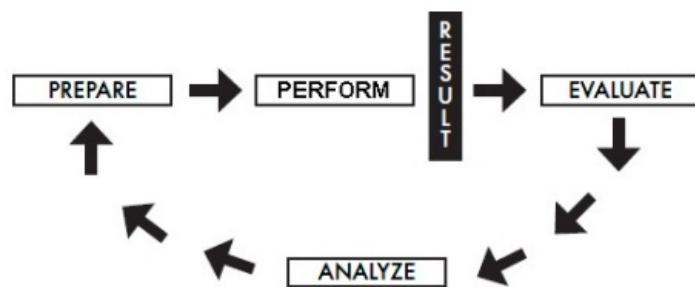
The purpose of setting goals is to win the game. The purpose of building systems is to continue playing the game. True long-term thinking is goal-less thinking. It's not about any single accomplishment. It is about the cycle of endless refinement and continuous improvement. Ultimately, it is your commitment to the process that will determine your progress.

Goals are good for setting a direction, but systems are best for making progress.

9/ Qualitative Results

THE ISSUE OF RESULTS-ORIENTED THINKING

When you only focus on wins and losses, your emotions go on a rollercoaster because we attach them to money. Being focused on winning and money in the short run is not what causes problems; it's the set of results you're ignoring. You also need to focus on qualitative results so your emotions can attach to factors that you have 100% control of it. The process model provides the structure and organization to capture qualitative results since they aren't easily calculated at the end of a session.



The Process Model

The first opportunity to gain an objective view about what happened during your trading is immediately after you finished.

Traders tend to overly focus on money immediately after a session because it matters most in the long run and it's so easy to calculate. The problem is that because of variance, monetary results alone are unreliable measures in the short term of how you performed. Here are a few better ways to evaluate how you played:

- Look closely at tough decisions to see how you played them.
- Estimate how much variance influenced results.
- Calculate whether you accomplished the qualitative goals you set before the session.
- Review how you did in the areas you're trying to improve (technical and mental).

/sources/

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Mind Over Markets by James Dalton

Atomic Habits James Clear

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Other Sources



the end.



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