Risk Management

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Why is Risk Management important?

Until now we learnt that we can never be 100% sure if our trade works out or not. We also learnt that it's not important if a single trade works out and that every trade is a unique occurrence with random outcome. But how can we be profitable if we don't know if we will win the next trade or not?

This is where Risk Management comes into Play. As you can't avoid losses, your job is to control them and keep them small. In this PDF I will go over the concept of managing your Risk.

Risk per Trade vs Risk per Day

I like to define a % risk per day rather then per trade, this is mainly because if you got a bad emotional day after some losses and you try to revenge trade this rule prevents you to lose a lot of your Portfolio. So, let's say I want to risk max 5% of my portfolio per day and I know with my system I will likely just take max 3 trades a day I won't use more than 1.5% risk per trade. Less risk is always better than more risk, your main goal should be to survive. It doesn't matter if you make only small money or no money. Everything that matters is that you survive long enough to actually be around until you can get profitable.

Max Losing streak and max loss of Capital

So, as we already know no system has a 100% hit rate but what does that means in terms of max losing streak? The below illustration shows you how much times you will likely win/lose in a row based on your Hit rate over a sample of trades:

	50		500		1000	
Hit Rate	max. likely losing streak	max. likely winning streak	max. likely losing streak	max. likely winning streak	max. likely losing streak	max. likely winning streak
10%	37	2	59	3	66	3
20%	18	2	28	4	31	4
30%	11	3	17	5	19	6
40%	8	4	12	7	14	8
50%	6	6	9	9	10	10
60%	4	8	7	12	8	14
70%	3	11	5	17	6	19
80%	2	18	4	28	4	31
90%	2	37	3	59	3	66

This illustration also shows the importance of practicing your system on replay mode or with a demo account until you are 100% confident that it is profitable over a sample of trades. Because let's say your win rate is 60% and now you lose 6 times in a row.

This doesn't mean your system is bad and hopping to another system at this point will only get you rekt. You need to be confident enough in your system that even a losing streak can't make you uncomfortable.

In the illustration below, you see how much you are supposed to lose based on the % of your Portfolio you use per trade over a streak of losses:

Losing Streaks and loss of capital

Losers in a row	Loss % (1% risk)	Loss % (3% risk)	Loss % (5% risk)
1	1.0%	3.0%	5.0%
2	2.0%	5.9%	9.8%
3	3.0%	8.7%	14.3%
4	3.9%	11.5%	18.5%
5	4.9%	14.1%	22.6%
6	5.9%	16.7%	26.5%
7	6.8%	19.2%	30.2%
8	7.7%	21.6%	33.7%
9	8.6%	24.0%	37.0%
10	9.6%	26.3%	40.1%

I always opt for less risk, the following Illustration shows best why

Drawdown	Recovery Rate
5%	5.3%
10%	11.1%
20%	25%
30%	43%
40%	67%
50%	100%
60%	150%
70%	233%
80%	400%
90%	900%

Drawdown is the total loss before a win. As we see the more you lose on your Portfolio the harder it gets to recover.

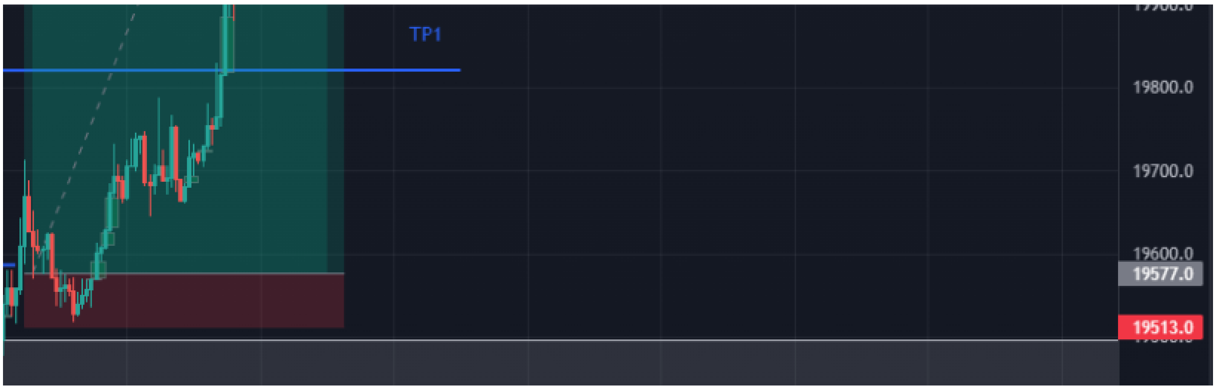
Position Size

Position size is one of the most important things when it comes to trading.

There is the believe that more leverage = more risk, however that's not true. The right equation would be more size = more risk.

In the following example I'm going to explain how you calculate your risk to illustrate my point

This is an example I backtested recently



So in this example my entry was at 19577 and my stop at 19513

We can calculate our risk in % with the following equation:

*(100/Entry)*SL-100 = Risk*

In this case: *(100/19577)*19513-100= -0.327*

-→ This trade has a risk of -0.327%

You don't need to calculate this, the "Long Position" and "Short Position" on Tradingview does it for you. But it's still good to know how it works.

Anyway, knowing that we can now move on and calculate our position size. Let's say you are trading with a 1000$ account and want to risk 1% per trade → 1000$*1%= 10$

The equation for your Position size is: *$Risk / %Risk*

10$/0.327%=3058$ or (1/19577$)*3058$ = 0.156203 BTC

Your position size for this trade will be 3058$ or 0.156203BTC the leverage at this point doesn't matters, you can do it spot or with 2x or 100x the position size and as such the risk stays always the same.

Basically, the leverage only tells how much margin (collateral) you put up for that trade so with 100x leverage for this trade you're only going to need 30.58$ on the exchange. If you have more money in your futures account just make sure to use "isolated" mode and not "cross". Your sl is less anyway but you never know. Be better safe than sorry.

Risk:Reward

The R:R ratio represents the ratio between your potential loss (risk) and your potential win (reward).

Here as well if you use the the “Long Position” or “Short Position” option Tradingview will calculate it for you

Manually you can calculate it with the following equation:

price distance to target / price distance to sl

If we take the same example from above it's like this:

Entry: 19577

SL: 19513

TP: 19820

(19820-19577)/(19577-19513) = 243/64 = 3.79

This trade has a R:R ratio of 1:3.79 or a R multiple of 3.79

With the above example as we're risking 10$ this means that our potential win is 37.9$

In general, you should be looking for trades where the reward is higher than the risk. If the R:R ratio is worse than 1:1 that means that the potential risk is greater

than the potential reward. Which in conclusion means that you're going to need more than 1 win in order to make up 1 loss which in general is a very bad thing.

Minimum Win rate to break even:

The minimum R multiple you get is mostly the same if you use only 1 system. So, for example for my system the first TP is nearly always between 3R and 3.5R

So how do you calculate your required Win rate to break even?

Equation: *1/(1+Rmultiple)*

Example: 1/(1+3) = 0.25

In this case you're going to need a 25% win rate to break even.

In the below table you see the required Win rate based on the R multiple

R - Multiple	Required Winrate
0.5	67%
1	50%
1.5	40%
2	33%
2.5	29%
3	25%
3.5	22%

Expectancy

Calculating the expectancy will tell you whether your trading system is profitable or not based on the size of wins and losses as well as the average win/trade.

The equation to calculate your expectancy is as following:

*(win rate*average win size) - (loss rate*average loss size)*

Let's take the example from above again with a winrate of 60% and an R multiple of 3:

win rate: 60% (therefore loss rate: 40%)

Average win: $30

Average loss: $10

Expectancy = (0.6 $30)- (0.4 x $10) = 18 - 4 = 14$*

This is your average win per trade and as such this example is profitable. If you get a negative number you aren't profitable

Common mistakes with SL

- **Setting a static SL**

Some people like to set a static SL (always -0.25% or whatever) I think this makes no sense, as you aren't flexible like this.

Your Stop should always be where your trade is invalidated (so at a technical key level) and the Chart tells you where that point is. The market doesn't care about random numbers. In order to keep your risk the same you're going to need to adjust your Position size depending on your stop placement like we learnt above.

- **Change your SL to BE or in Profits ASAP**

This is a common mistake many people do when they aren't confident in what they're doing or when you don't accept the risk (which is mostly when your Position size is to big).

Here again, your stop shouldn't be changed unless the invalidation point of your Setup changed. Often price trades back into your entry, this doesn't mean that your trade isn't valid anymore and you don't want to get stopped out BE and then watch how the trade moves in your direction. So always remember, never change the stop just to feel safe, always think about if your stop placement makes sense from a technical point of view.

- **Never adjust your Stop**

In contradiction to what I just told, it is also a mistake to never change your SL. Once the position moved in your direction, think about if the invalidation point also changed. Think about it like this: "If I would open a trade right now at this point, where would I place my stop?". If it's still at the same spot you keep it. If it changed because the chart tells you so then it makes sense to change your SL as well.

Another way to see this is the concept of Evolving R (I think this was introduced by trader Dante) so when the market moves in your Direction, your Risk evolves. I will illustrate this for better understanding.

Let's assume this is your trade Idea:

You see the entry was triggered and price is already moving in your direction. At this point it wouldn't make any sense to change your SL yet as the structure didn't really developed yet. You would just run the risk to get stopped out for no reason

Then the trade advances. At this point it would make sense to adjust your stop

Why? Because technically price is printing Higher Highs and Higher Lows. If it would change structure now and do Lower Highs and Lower Lows instead it would indicate a reversal and as such invalidate your idea.

This will make more sense once we learn about Marketstructure

Also if you look at it with the concept of Evlolving R your Risk is significantly higher now, as you would lose all your profit in case you would get stopped out.

While you had an initial R:R of 1:12 your actual R:R changed to 1:0.11. You are risking all your Profit to potentially make few % more.

This doesn't mean that you have to close your trade, as long as the trade is valid you should keep it open. However, your invalidation down there makes no sense anymore so you should adjust it accordingly

- **Setting your SL at areas of Liquidity**

I will do a PDF about that or I will include it into the Market structure PDF. However, to keep it short you should never put your Stop right below/above Support/Resistance, trendlines or directly above/below: key swing highs/lows and clean equal highs/lows as there is a good chance the market will trade through them before reversing

An example:

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Some final Words

Thank you for reading this PDF. I hope you found it useful and learned something new.

If you have questions don't hesitate to ask. More Educational PDFs are in the work so make sure to join my community on Twitter and Telegram in order to stay up to date.

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Best of luck

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