A Study on Bet Sizing

By disciplined_daytrader · August 21, 2022

TL;DR

This blog post explores the critical role of bet sizing in trading, highlighting the differences between Equally Sized, Linear Sized, and Exponential Sized Betting. It emphasizes the need to adjust bet sizes based on trade quality to maximize profitability and mitigate losses from lower-quality setups.

Something that is very often overlooked by many traders is the importance of bet sizing. When sizing our bets we need to understand the differences between Equally Sized Betting, Linear Sized Betting, and Exponential Sized Betting. Firstly, lets explain the reason why we change our bet sizing depending on the quality of trades.

Quality	Win Rate
A	90%
B	70%
C	55%
D	40%

When trading you will always have different trade types that give either a high win % or a low win %. For example, an A Quality setup will give around a 90% chance of winning. a B setup will give about a 70% chance of winning. As you can see above we have these quality setups aligned with the expected rate of winning that trade.

Frequency of Occurence	
A	1%
B	3%
C	6%
D	90%

This is where it gets tricky. Just because an A quality setup is a 90% chance of success does not mean that they will happen often. This is actually the reason why they are so rare, they offer a very high chance to make money. Therefore when we see these trades we have a duty as traders to understand how important it is to skew our bet sizing so that when these rare occurances happen, we can make up for a lot of trades taken that are C or D quality. Trading is very difficult and most traders take every opportunity they have their eyes on. This means that we will inevitably take many trades that occur more often than an A or B quality setups such as C or D quality setups. Since we will take a lot of C and D quality trades we have to account for the nature of those trades being a low % win rate. This is where bet sizing comes into play.

There are 3 different ways to bet on stocks; Equal, Linear, and Exponential.

Equally Sized Bets			
Quality	Bet Size	# of Trades	Profit
A	1	1	$3.50
B	1	3	$3.30
C	1	6	$0.60
D	1	90	-$18.00
		Net Profit=	-$10.60

When we bet equally on every setup that we see regardless of quality we end up being a nonprofitable trader. The reason for this is simple. A and B quality setups occur rarely but have a high win rate. C and D quality setups occur very often and have a low win rate. If we bet equally on all of these setups we will inevitebly take many more C and D quality setups that A and B. Therefore, we will lose money in the end because those setups that we take more often (C and D) will result in us losing more often than winning. As you can see this is clearly not a good way to be a trader, unless your goal is to lose money.

Linearly Sized Bets			
Quality	Bet Size	# of Trades	Profit
A	4	1	$14.00
B	3	3	$9.90
C	2	6	$1.20
D	1	90	-$18.00
		Net Profit=	$7.10

This is a slight step up from the previous style of linear betting. Since we are now betting linearly, we see that on D quality trades we are only betting 1 lot size. Then, as we go up in quality we go up by 1 lot size per quality. Now, in this case we are actually profitable traders. We are able to finally skew the odds in our favor because now that we are betting 4x the size on an A setup compared to a D setup, all of those losses that come with trading a D style setup will be taken out by simply sizing bigger into those high quality and high win rate trades. Although this is good, it is still not good enough to be a highly profitable trader.

Exponentially Sized Bets			
Quality	Bet Size	# of Trades	Profit
A	8	1	$28.00
B	4	3	$13.20
C	2	6	$1.20
D	1	90	-$18.00
		Net Profit=	$24.40

This is the holy grail of bet sizing. Now instead of linearly betting 1 more lot size per quality setup we are using 2x the size per quality setup. Now in our A quality setups we are taking 8x the amount of size that we would take in all of our D quality setups. Remember, D quality setups will occur the most often and we will degen into those trades more often than not which takes away tons of our profits. Now that we have 8x the size on those A quality trades we can more than make up for all of our losses and come out with a much bigger profit.

Notice the difference between Exponentially sized betting vs Equally sized betting. A -$10 P/L versus a +$24 P/L. That is a massive difference. Some professionals that we saw in 2020 crushing it because 2020 offered a skewed year of high quality setups, the reason they did so well is because they sized up almost 10x what their previous size was in slower times. They knew that the 2020 market was a once in a lifetime opportunity and if they sized heavily into those high quality high win rate trades, then they could make a month or a years worth of their old P/L in one single trade. This is extremely important and it something that we should all be very cognisent of at all time when trading. If we do not change our bet sizing our only other chance of being profitable is by reducing the amount of trades that we take that are C or D quality setups, simply because they are not worth it.

FAQ

What is the importance of bet sizing in trading?

Bet sizing is crucial because it helps traders manage risk and maximize profits based on the quality of trade setups. Adjusting bet sizes according to the likelihood of winning can significantly impact overall profitability.

What are the different types of bet sizing?

The three types of bet sizing discussed are Equally Sized Betting, Linear Sized Betting, and Exponential Sized Betting, each with varying approaches to how much to bet based on trade quality.

Why should traders avoid equally sized betting?

Equally sized betting can lead to losses because it does not account for the varying win rates of different trade setups, resulting in more frequent losses from lower-quality trades.

How does linear betting improve profitability?

Linear betting improves profitability by increasing the bet size for higher-quality trades, allowing traders to offset losses from lower-quality trades with larger wins from high-quality setups.

What makes exponential betting the most effective strategy?

Exponential betting is the most effective because it allows traders to significantly increase their bet size on high-quality setups, maximizing profits while compensating for losses from lower-quality trades.