Expected Value

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What is Expected Value (or Edge) and why is it so important?

Expected Value tells you how much you are likely to win over a series of bets over time. In order to achieve a long term profit in sports betting you need to have a net positive Edge from all your bets.

We're going to keep the maths here to a minumum but the Edge is calculated as follows:

(Probability of Winning) x (Amount Won per Bet) - (Probability of Losing) x (Amount Lost per Bet)

At Quantisport, we provide you with the Minimum Odds or the actual Edge based on the current price. So as long as you get a better price than the minimum odds displayed, you will get value.

How can we take advantage of this in horse racing?

Bookmakers typically add anywhere between 5% and 20% margin to their odds. If a horse has a true chance of winning of 50% it should be priced at odds of 2.0. However a bookmaker has to make money off that bet so they will offer you a lower price of say 1.8, meaning it's implied chance of winning is now 55%. What this means for you, is that your chances of losing money has just gone up!

At Quantisport we don't add a margin so our probabilities (daily tissue prices) are a true reflection of the chances of that horse winning the race. So in the example above, if we estimated the chances of a horse winning at 50% and the current price was 2.5 there is value in that bet and betting on these types of horses long enough will guarantee a profit.

How can profit be guaranteed?

Profit can never be guaranteed 100% as there are many things that go into making profit such as money management. If you aren't managing your bank balance or you don't have a good staking strategy you could still end up losing money. What you can do, is significantly increase your chances of making a long term profit by using a good staking strategy and sticking to value bets. There is a very important concept in mathematics called the Law of Large Numbers. In simple terms this means that the actual result i.e. your profits from value bets, will converge to the expected profits (the sum of all your individual edges over time).

If we take the example of a coin flip, but this time the coin is slightly biased towards tails, meaning the chances of getting heads is 49% and tails is 51%, you will have a small edge of 2%. If you bet £1 on each flip of the coin you expect to win 2p for each £1 bet placed.

The chart below shows what the results might be after placing 100 bets on the flip of the coin with a small advantage towards tails.
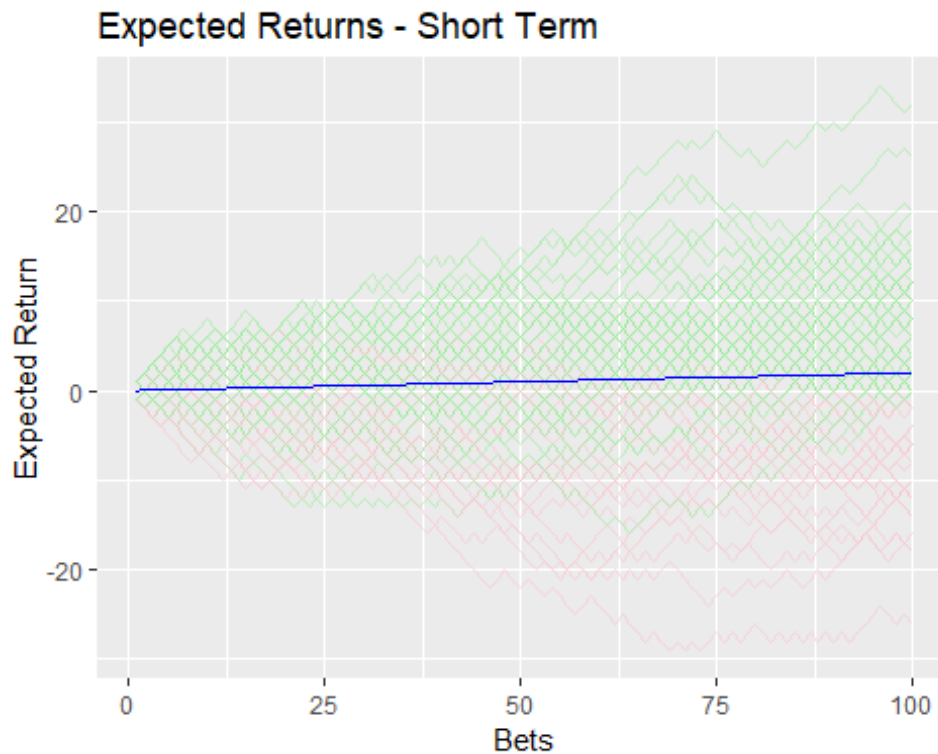
The blue line shows your expected profit after 100 bets, after which you would expect to be up £2 with a slight edge of 2%. The green lines indicates where you have made a profit and the pink lines where you would have made a loss. After 100 bets you could be anywhere between +/-£30.

You can see that the number of green and pink lines are evenly distributed above and below the x-axis, indicating that even with a small positive edge a lot can happen. In this example you would have made a profit 58 percent of the time.

We can now look at a more long term view or 10,000 bets. If you took the Quantisport Top Rated horse from each race and only bet on the ones with a positive value, you would be left with a little over 11,000 races over the last 2 1/2 years.

Expected Returns - Long Term
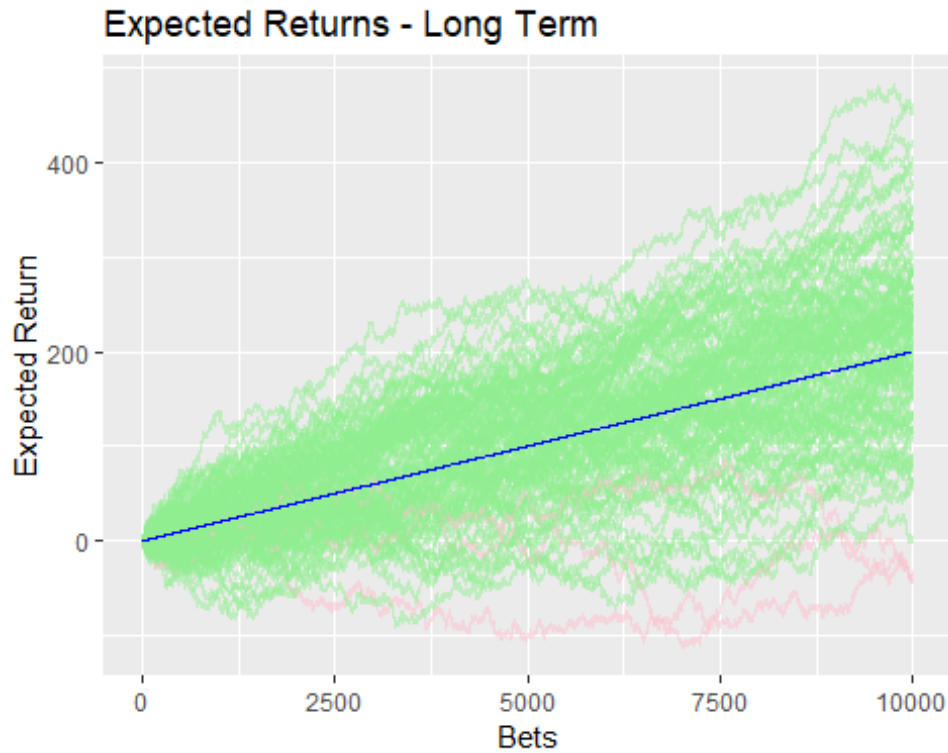
What you can see now is the expectation of making a profit has grown considerably with most of the green profit lines above the x-axis. In this example 96 percent of them in fact are in profit. You'd need to have a long run of bad luck to be in a negative position.

Conclusion

You don't need to win every bet to make a profit, the most important thing is making sure the bets you do place have a positive expected value.

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