



Lecture 4: Stack Sizes and Board Texture

Introduction

In the last lecture we talked about hand ranges; why they are important, and how to use them. We also discussed a bit about how your range should change through the course of a hand, and said that the main factors that should affect your range are position, stack size, board texture, and type of player you are playing. Over the next few lectures we'll be talking about how and why we should adapt our range to these circumstances. Today's lecture will focus on stack size and board texture.

Why do we need to adapt our range?

When we were talking about hand ranges, we said that instead of thinking about poker in terms of individual hands, we should think about it in terms of individual actions. When we think like this, we must see each action as part of an entire situation which encompasses a variety of factors. When players first start to learn about poker, they often see hands as rigid things. They learn which hands are "good" or "bad", and play these hands in a fixed way, regardless of all the other factors about the situation. Although this way of viewing things can work to a certain extent because they will be getting their money in with good equity a fair amount of the time, in some situations they will definitely be making mistakes and getting their money in bad when they don't need to.

So I really want you to try to consider your hands as fluid things, the value of which can change from positive to negative expectation depending on the situation in which it is played.

There are two main reasons why we need to adapt our range depending on the situation. The first is player – dependent; it's because in a lot of cases, our opponent's range will change dependent on the situation. And when it changes like this, we can see that in order to properly identify what range our opponent has by the action he is making, we also need to understand what factors they have used to base their actions on. For example, take basic opening requirements. Most players adapt their opening range depending on which position they are in at the table, opening less hands in early position, and more in late position. Well, we need to be aware of which players are adapting in this way so that we can adapt our own range in order to play hands that have good equity against their range.

The second reason for adapting our range is less player dependent and concerns how different factors affect the game from a mathematical point of view. An example of this would be when our or our opponent's stack size is too small to get the correct implied odds to continue playing. In this circumstance, maths dictates that we can no longer play the hand profitably, so we need to adapt our range to hands which can be played for short stacks instead.

Stack Sizes

How and why should we adapt to different stack sizes?

When we are looking at stack sizes, we always have to look at what our *effective stack* is. Our effective stack is the amount of money we can get in the pot. So if our opponent has 50BB and we have 100BB, our stack is effectively only 50BB.

One easy rule to remember is that as stack sizes increase, stronger hands have more value, and as stack sizes decrease, hands with less strength have more value. So, for example, on a 50BB effective stack we should be looking to stack off easily with our top pair type hands. But if we have 150BB stacks, we should be folding our one pair type hands more often, and looking to stack off only with much stronger hands like sets, flushes, full houses etc. Why is this?

Poker betting works the same way as normal money

The first reason is that most people consider poker money in the same way as they consider normal money. When we buy things in shops, we have an idea of what each thing is worth. In general people will not buy a bottle of milk from a shop if it costs £25. And many people like finding bargains, where they believe that what they have bought is worth more than they paid for it. Because our idea of money works like this, this is also the attitude people come to the poker table with. This means that we effectively end up selling our hands for the highest value we can. Someone with bottom pair generally thinks that it is not "worth" 100BB. So you won't be able to get them to stack off with this hand. When they do want to get all in, it will be with a hand they believe is worth their stack.

What this means is that our opponents will often be adapting their range to their stack size. On shorter stacks, their range will be wider than it will be on big stacks. When someone has a big stack, their range will be weighted towards stronger hands when they want to put more money in. When someone's range is wider, medium strength hands have more equity against their range, and so these hands can be played more profitably than they can against someone with a very narrow tight range.

Because this means we are adapting to our opponents adapting to stack size, this obviously does not hold for opponents that do not make this adjustment. Against an opponent who will happily stack off with any top pair hand for 200BB, we simply want to get in as much money as possible, not play scared and end up folding hands with good equity.

Implied Odds

Even if our opponents don't adjust, there are still some hands that we just won't be able to play profitably with some stack sizes. This comes down to maths about implied odds. We can't profitably play hands that we don't have implied odds to hit. So in general with short stacks we should avoid playing drawing type hands. As our stack sizes increase, our potential implied odds go up, and so our drawing hands gain more value. The general rule for playing a drawing type hand preflop is called "the 5-10 rule". This states that we should not be putting more than 5-10% of our stack in preflop in order to hit our hand. This rule applies to pocket pairs that want to hit a set, and suited connectors. Other hands that will need to hit very well to continue (2 pair type hands etc) will require us to put even less of our stack in preflop. In reality though, it's better if you are putting in closer to 5% with small pairs and suited connectors; 10% is really a bit much.

One reason for this is that if even if we are getting proper odds to call, we are losing value if we could have got a bigger stack in than we have. This is why we stated above that weaker hands tend to have more value with smaller stacks. Since people will stack off far more easily against smaller stacks, our weaker made hands have more value in this situation. But when we have smaller stacks, we cannot get the full value for our strong hands. This is one reason in favour of always buying in for the most you can possibly buy in for at a cash game. If we do this, as long as we play our weaker hands well, we can still make money with them, but we will also get the full value for our strong hands. The only exception to this would be if you are playing a player who will play very timidly against another big stack, but quite manically against a shorter stack. In this case you might want to take advantage of that and play a smaller stack in this situation.

One other thing you need to consider about implied odds is the type of player you are playing. In certain circumstances, even though it might seem like you have the right stack size to have implied odds to draw to something, if your opponent plays well enough to fold their good 1 pair type hands against a big stack, you should not try to draw against them as much. In this case too, if they will make more mistakes against a shorter stack than they would against a large one then go ahead and buy in for less. Or, preferably, don't buy in at all, and find another game. This type of player would be an exception, as larger stacks lead to more difficult decisions and so are harder to play. But this difficulty pays off because it means that players make bigger mistakes with big stacks, meaning more profit for those players who play them well.

Fold equity

We will discuss fold equity in more detail in a later lecture, however you should know for now that you should also be very wary of trying to bluff short stacks. Because of what we have discussed above about short stacks stacking off more easily, and about implied odds (for semi-bluffs), it is usually not profitable to bluff against short stacks (unless they are short stacks which play extremely weakly, for example limp / folding). In general though you should play quite straightforwardly against short stacks, betting, raising, and calling your good hands for value. Against large stacks there are lots more interesting moves that you can make that a combination of good fold equity and good implied odds make possible.

Stack to Pot Ratio (SPR)

Stack to pot ratio is a concept that helps us to decide what types of hands we should be stacking off with in any given situation. Stack to pot ratio is worked out by finding out how many times what is in the pot fits into your stack. So, for example, if you are playing \$1/\$2 and there is \$15 in the pot preflop, and you have a stack of \$200, your stack to pot ratio is $200 / 15 = 13.3$, or 13.3:1. If you have \$100 it is 6.6:1. We should in general start to be cautious of getting all in with good 1 pair hands when our SPR is above 10. The lower our SPR is under 10, the more you want to go with any decent hand that you have.

Stack to pot ratios can also help us to determine what the best way of getting the money in postflop is. Because we have 3 streets to play, when we want to get a large stack in postflop, we often need to plan our bet sizing to ensure that getting our whole stack in is achievable. If we bet too much on any given street, our opponent may realise that we have a very big hand and fold. But if we don't bet enough, we won't be able to get our whole stack in. Being able to get a decent sized bet in on the flop really helps with this, since our bets on the turn and river are relative to the size of the bet on the flop. Here is a table that should help you organise your betting postflop dependent on your stack to pot ratio:

Insert table, describe and explain

Board Texture

How and why should we adapt to different board textures?

One very obvious way in which we all adapt to board texture is whether we have hit the board in any way at all. When we hit the board well, our equity goes up, and so we want to put more money in. When we don't hit the board at all, we know we have very little equity, and so don't want to put so much money in. But in order to be able to adapt to board texture to make the most money, we need to be able to assess the board in terms our opponent's range as well as our own.

In a lot of situations after we have raised preflop, we will want to continuation bet either as a value bet or a bluff. But the texture of the flop should play a big role in whether we do this or not. Board texture should also influence whether and how often we should bet later streets as well.

Flop Texture

When we are assessing the texture of the flop, we need to think about 3 main factors. The first is how many hands this flop will hit mathematically. Flops that are in any way *coordinated* will mathematically hit more hands than uncoordinated ones. A coordinated flop is one which contains suited and connected cards, for example 8d7d5s. An uncoordinated flop is one where the cards are unsuited and unconnected, for example Kd7h2s. Since it is much harder for our opponents to hit uncoordinated flops, continuation bets should win more often on these flops, and therefore be more profitable. On very coordinated flops, it's ok to sometimes just give up the pot without even continuation betting as continuation bets are so much less profitable on these flops. We should also be aware that on coordinated flops our marginal hands go down in value, and on uncoordinated flops they go up in value, so we should be more willing to lay down our one pair hands on coordinated flops than we would be on

uncoordinated ones. This is again because coordinated flops tend to hit hands well enough and often enough to give their range good equity against our marginal hands.

The second factor we need to consider is how the texture of the flop hits our opponent's range. Since many players like to play Ax hands and high cards, boards with high cards and aces will obviously hit our opponents range more often than boards with low cards. But if you are playing an opponent who likes to play different types of hands, you should be aware of that as well when assessing board texture. Again, be less prepared to continuation bet, and continue with marginal hands when the board texture hits your opponents range well.

The third factor we need to consider is how easily our opponent can continue given the texture of the flop and how well our opponent perceives us to be able to continue. For instance, on uncoordinated ace high flops, it is still very difficult for our opponents to continue when bet at or raised without them actually having an ace, because of the fact that Ax hands make up so much of our range. Similarly, if a flop comes something like 226 where it is almost impossible to have hit, our opponents might know this and raise our continuation bets. When they do this, it's very difficult to continue even with Ace high hands or small pairs, especially out of position. So you should be aware of this when deciding when to continuation bet.

Turn and River Texture

Turn and river texture should always be assessed in terms of our opponents range for continuing on previous streets. If our opponent has check / called our continuation bet on the flop, we should assume he has something (against normal players). So we can narrow our opponent's range to cards that have hit the flop. Bad turn cards are therefore those which do not change the board, or those which compliment the board in some way. In these cases we should mostly be giving up the pot at this point without a strong hand ourselves. For example, if the flop comes 972, and the turn is an 8, this is a bad turn card for us to continue betting at, because now our opponent can have turned 2 pair or another strong hand, or if he had an open ended straight draw on the flop, he turned 1 pair. If the turn comes a 4 instead though, it is also a bad turn card to continue betting at, as the board essentially has not changed at all. There is no good reason why our opponent would want to fold much of his range for check / calling the flop on this turn apart from being a weak player. Good turns to continue betting include high cards as they hit a lot of your continuation betting range on the flop. Be aware that players are more likely to call on the river if you try this then instead of on the turn though, as they know they will not have to face any more bets. For river betting most of the same thoughts apply, although you should be aware that someone who has already called two bets probably has quite a strong range.