Gathering Chips

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Many people now play in small entry no-limit hold'em tournaments. Two features that are common to almost all of them are rapidly escalating blinds and levels of fairly short duration. A powerful consequence of these two features is that most players will not see many premium hands or fantastic flops. Thus, when you are dealt premium hands or catch a fantastic flop, you must try to acquire as many chips as you can. I remember the following situation two years ago.

On the second hand of a no-limit tournament with 25-25 blinds, a new player, who was under the gun, went all in for 600. Everyone folded and he won the grand total of 50 chips. Later he shyly admitted he had held A-A. We all know that A-A loses, but you are not going to see a powerful hand like this very often and you must play to acquire more chips than the blinds. I don't want to talk about premium beginning hands, instead, I want to discuss fantastic flops.

Here is something that happened to Bib Ladder several years ago. This is the story he told me at the time. Two nights earlier, he had been in a no-limit hold'em tournament. He was at the final table with seven players left, so he already was in the money. He was under the gun with an average stack and found himself staring at pocket 10s. He raised four times the big blind and had two callers—the player one off the button and the player in the small blind. The player one off the button had a stack slightly less than his and the player in the small blind had a slightly larger one. The flop came 10-3-3, two of which were spades, so Bib had flopped a monster.

In what he described as a momentary brain lapse—actually his description was more colourful but I have edited his remark—he shoved his entire stack in following a check from the small blind. As soon as he had made the bet, he realized he had made a huge mistake or so he thought. Did he? Let's pick up the conversation at that point.

"All right, Bib, what is your objective upon seeing a flop like that?"

"I want both players committing all their chips...well, I want all three of us in the pot to the extent that I am all in."

"That's right, Bib. You have a golden opportunity to eliminate one player, severely cripple another player and to triple your stack. And you ignored the essential feature of no-limit in that it does not matter on which betting round they commit their chips."

"Well, professor, my question is what kind of a chance is there that by letting them draw I will lose the pot and be eliminated from the tournament?"

"Bib, without doing any calculations I can tell you that your chances of giving up the lead are very small and you should let them try to make their hands. Let's try to make some kind of estimate but we need to make a few assumptions about your opponents' hands based on the preflop action. What could you deduce based on your knowledge of them?"

"If either of them had had pocket aces or pocket kings, they would have re-raised. The player one off the button also would have re-raised with pocket queens or pocket jacks. So I believed the only chance of being up against a bigger pocket pair would have been the player in the small blind holding pocket queens or pocket jacks. However, his check following the flop made me believe neither player had a pocket pair bigger than mine."

"All right, Bib, let's consider what it takes for the other players to beat you. First, I agree that after the check from the player in the small blind, you were safe in assuming you were not up against a larger pocket pair. That is an important point because if either held a larger pocket pair, then only one card is required for one of them to take the lead. We now have to make an estimate as to what hands they were likely to have called with."

He told me they would have called with any pair, ace with big kicker, suited ace, and for the player one off the button, two big suited cards. There are 43 possible pairs of rank two through nine; 43 suited aces; 36 aces with offsuit J,Q or K; and 15 sets of two big suited cards not already counted. For the player in the small blind, this gives us roughly 122 hands he would have played, and for the player one off the button, approximately 137 hands he would have played.

The preceding numbers are exact, but we would like to count the combinations of two hands which would have led to both players calling the raise under the above hand restrictions. This number varies depending on how the suits of the threes compare with the suits of the 10s, as well as variations arising in several subcases because of choices of suits. Since we are interested only in a rough approximation anyway, we shall use 14,840 combinations which is close to the various exact values for the subcases.

The only way that Bib already was behind was for one of the two players to have pocket threes. There are 255 combinations with one of the players holding pocket threes giving a probability of about .0172, or about 1 in 58, that Bib was facing quad threes. Another possibility was for one or both of the players to have a three. Since we are assuming a player has a three only when he has it with an ace of the same suit, if both players had suited A-3, then Bib loses only if the case aces come on the turn and river. This involves only two combinations and allows only one possibility for the turn and river cards.

For the remaining combinations, we have to estimate the number of ways the turn and river cards can produce a loser for Bib. For example, of the 14,840 combinations, about 462 have exactly one of the two players holding suited A-3. Of the 903 ways of choosing the turn and river cards, 47 give the player with A-3 a winning hand when the other player does not have an ace, and 45 ways of winning the hand when the other player has an ace. In addition, for every big card held by one of the two players, there are three ways runner-runner cards of that rank can come on the turn and river unless the other player also has a card of that rank, giving only one way runner-runner cards of that rank can come on the turn and river.

Someone with a smaller pocket pair must hit runner-runner quads to beat Bib. Also, two more threes coming is mostly bad for Bib because any combination with one of the players holding a card larger than a ten produces a

loss for Bib. Running through all the combinations leads to an approximate probability of Bib's hand being overtaken of .0228 which is about 1 in 44. This already includes some compensation for the fact Bib sometimes will make quads himself.

"Bib, you've now seen the numbers so tell me what happened in the hand."

"The player one off the button agonized for a short while and then folded. It was clear he would have loved to have seen more cards. I put him on a spade draw. The player in the small blind called and turned over suited A-3. The turn card was a blank, but the river card was the ace of spades. The player one off the button then informed me he had thrown away the K-J of spades."

"So, Bib, this means one player would have made the highest possible flush and the other player made a smaller full house. There would have been a lot of action on the river had the flush player gone that far, but I suspect the player in the small blind holding trip threes with the best possible kicker would have made a move after the turn card. It is not clear the spade draw would have paid to go to the river. Nevertheless, the table was set for you to do maximum damage and I now think you see how strong that kind of flop is."