



# MIT 15.S50 LECTURE 7

Wednesday, February 1<sup>st</sup>, 2012

# INTRODUCING GUEST LECTURER

- Mike “Timex” McDonald
- We were good friends since high school
- He turned pro in 2007. He’s the one who taught me poker during my undergrad in Waterloo, Canada.
- Won EPT Dortmund when he was 18 for >1 million (in 2008)
- Currently (as of January 2012) ranked top 10 live tournament players in the world
- Very nice of him to fly down to guest lecture!



# RERAISE PLANNING TO GET ALLIN, SMALLER RAISES ALLOW MORE POSTFLOP PLAY



[illegible]



# FAIRLY TERRIBLE FLOP FOR OUR HAND, SO-SO FOR OUR RANGE



# ESTIMATING HIS HANDS PREFLOP

- Hands he virtually always goes allin with preflop: KK,QQ,JJ,TT,AK
- Hands he 50% goes allin, 50% folds- 22,33,44,55
- Hands he 50% goes allin, 50% calls- AQ, AJs, KQs, 66, 77, 88, 99, AA
- Hands he 50% calls, 50% folds- KJs, KTs, ATs,QJs, QTs,JTs, Kqo, T9s , AJo
- So when he calls and we get this flop, he has AQ(8 combos), AJ(6 combos), KQ(6 combos), 66(3), 77(3), 88(3), 99(0.5), AA(3), KJs(1), KTs(1.5), , QTs(2)ATs(2), QJs(1.5), JTs(1.5) T9s(1)



# HERE WE BET EVEN THOUGH THE FLOP IS QUITE MEDIOCRE





## HOW HE'LL REACT WITH HIS 43 COMBOS

- Generally if he can beat AK he'll be ecstatic getting allin, if he has Kx he'll generally grudgingly get allin
- Hands that beat AK: AA(3 combos), KJs(1) = 4
- Other hands that 99 has 2 outs against: KQ(6), KTs(1.5), AJ(6), QJs(1.5), JTs(1.5) = 16.5
- Hands that suck: 66(3), 77(3), 88(3), 99(0.5), T9s(1) = 10.5
- Hands that will likely continue that we're ahead of: AQ(8), ATs(2), QTs(2) = 12
- So preflop our hand was usually best, here we are crushed 20.5 times, getting an easy fold 10.5 times, and he'll have a hand that wins about 50% 12 times. If we check here, he can take the initiative, by betting we get some folds and may get some other folds later





AFTER GETTING CALLED WE'RE USUALLY BEAT  
BUT NOW WE CAN ELIMINATE MANY OF HIS  
STRONG HANDS/DRAWS







# SO WE CHECK



AT THIS POINT HE WON'T FOLD BETTER OR  
CALL WORSE SO AGAIN WE CHECK





WE WIN AGAINST AQ. IF WE CHECKED THE FLOP, HE'D HAVE MOST LIKELY BET TURN



A screenshot of a Texas Hold'em poker game interface. The game is in progress on a green felt table. The pot in the center contains three chips: a 5k chip, a 500 chip, and a 100 chip, totaling \$5600. The community cards on the table are the 9 of Spades and the Ace of Spades. The players and their stacks are as follows:

- fviana** (top left): \$503359, 100 chip, \$17600 stack.
- LoneHixx** (middle left): \$572267, 100 chip, \$4000 stack.
- youlovedon** (bottom left): \$182970, 100 chip, \$4000 stack.
- sappy123** (bottom center): \$74798, 100 chip, \$4000 stack.
- Gala Terry** (bottom right): \$217742, 100 chip, \$4000 stack.
- Zimmy86** (middle right): \$187104, 100 chip, \$4000 stack.
- T?mex** (top right): \$719654, 100 chip, \$4000 stack.

The interface includes a chat window at the bottom left, a notes window at the bottom center, and a stats/info window at the bottom right. The last action recorded is "fviana folds".





SO WE JUST CALL, HAVING TO CALL HERE IS AN  
EXAMPLE OF HOW HUGE HIS POSITIONAL  
ADVANTAGE IS



ON THIS FLOP OUR HAND IS ALMOST ALWAYS  
BEST, WITH LESS CHIPS WE COULD RAISE, WITH  
THIS MANY IT COULD LEAD TO TROUBLE





# SO WE JUST CALL



THIS TURN CARD CHANGES A LOT- IT OFTEN IMPROVES HIM AND GIVES US A CHANCE TO MAKE A DISGUISED FLUSH





PERFECT SITUATION TO CALL, IF HE'D FOLD TO OUR RAISE WE USUALLY HAVE THE BEST BY FAR. WHEN HE RERAISES HE'S BEST BY FAR



QUITE A BAD RIVER CARD, HE CAN VALUE BET  
THIN, AND MANY HANDS HE MAY WANT TO  
BLUFF RIVER WOULD HAVE CHECKED TURN





# SO WE ELECT TO FOLD



THE LATER A RAISE COMES FROM, THE WIDER THEIR RANGE. OUR HAND IS MARGINAL BUT SO IS HIS RANGE AND WE'RE GETTING 4.4-1





# SO WE CALL





COORDINATED FLOP, OUR HAND ISN'T QUITE GOOD ENOUGH TO GET ALLIN. WE CHECK, HE CHECKS BEHIND



TURN: A, THIS IS ONE OF THE WORST CARDS FOR US. OUR HAND GOES FROM ALMOST ALWAYS BEST TO WAY AHEAD OR WAY BEHIND





WE CALL HERE. ALMOST ANY HAND THAT HE  
WOULD CHECK FLOP WITH, HE'D BET TURN



THIS RIVER COMPLETELY FLIP-FLOPS WHICH HANDS ARE GOOD. EITHER PERSON CAN EASILY HAVE A 7 OR 2 PAIR SO HE IS POLARIZED





# WE CALL BECAUSE WE DON'T THINK HE'S VALUE-BETTING THIN



# POLARIZATION

- In many situations at the poker table, our range gets partitioned into 2 parts. (ie. raise or fold preflop, call an all-in or fold to an all-in).
- In a situation where you can value bet or bluff, your range is partitioned to THREE parts. You bet your best hands, check your middle hands, and bluff your worst hands. This is polariziation.
- On this board many weak players will only bet a 7 or better or a bluff.
- This means that all hands that are between the strength of the worst hand he'd value bet and the best hand he'd bluff are equivalent
- The bigger the bet the more polarized most players are





# HIS HANDS

- Assume villain expects me to fold all one-pair hands and call all two pair or better hands.
- In this case, he should only value bet his medium strength two-pair hands and up(say 95+) and only bluff his bad one-pair hands and down(say T6 or worse).
- This means that when considering calling a bet against an opponent like this, 86 and J6 are similarly strong hands.
- Some very cautious opponents will always bet a 7 on the flop, and never value bet anything but a 7 on the river.



WELP. I GOT OWNED. AGAINST ME THIS IS A GREAT BET, BUT MANY PLAYERS WILL FOLD ALL WORSE, CALL ALL BETTER IN MY SHOES





WILL'S SLIDES SUGGESTED VERY FEW  
SPECULATIVE HANDS FROM EARLY POSITION,  
THE NUMBER CAN BE INCREASED WITH TIME



## THE WORSE YOUR HAND IS UNIMPROVED, THE MORE OFTEN YOU HAVE TO BLUFF WITH IT

- When playing poker, your cards only matter if you get to showdown. Most hands don't get to showdown.
- The goal is to play hands that are likely to be the best hand at showdown, and be able to win the pot frequently without showdown.
- This means that your cards should either be good, or be likely to improve to something good.
- With increasingly speculative hands, you have tougher and tougher decisions since your chances of winning will be lower when your opponents have good hands.





# THE CUTOFF CALLS



[illegible]



ON ACE HIGH FLOPS, THE PREFLOP AGGRESSOR IS GENERALLY AT A BIG ADVANTAGE, NOT UNREASONABLE TO ALMOST ALWAYS BET



A screenshot of a Texas Hold'em poker game interface. The game is in progress on a green felt table. The community cards are the 2 of Clubs, Ace of Spades, and 8 of Clubs. Pot size is \$195. A player named "GettQuietly" has called a bet of 120\$.

**Players and Stacks:**

- T?mex: \$2594
- papafast1: \$6199
- paul?Faul: \$3010
- Garrin4e: \$2291
- MBS1970: \$2809
- Asso PB: \$2970
- FloweerBoy: \$4085
- omg&3lol: \$2970

**Community Cards:** 2♣, A♠, 8♣

**Pot:** \$195

**Last Action:** GettQuietly calls 120\$

**Buttons:** Chat, Notes, Stats, Info, Call, LEAVE TABLE, VIEW LOBBY





# WHAT DOES HE HAVE, WHAT WILL HE CALL

- Most opponents will fold most hands that don't involve a pair of 8's or better or a flush draw.
- There are many more hands preflop he can have that involve an A than an 8 or big pocket pair
- In order to win the pot against a hand like 99 or 98s we will need to bet turn. In order to win the pot against a flush draw we will need to bet turn and river, and to win the pot against an ace it depends on the strength of his ace, but even betting turn and river is likely insufficient
- Since lots of his flop calling range isn't going anywhere, we want to improve to continue. Any spade, 9 or Q gives us 8- 9 good cards. Any 7 or K gives us 4 (and the K is slightly better than the 7 since it's more threatening to a hand like 98 or 99)



LEAVE TABLE  
VIEW LOBBY

papafast1  
\$6199

paul?Faul  
\$3010

Garrin4e  
\$2291

MBS1970  
\$2809

GetItQuietly  
\$2637

Asso\_PB  
\$2970

FlowerBoy  
\$4085

omg&3lol  
\$2970

Check

2 of Clubs, Ace of Spades, 8 of Clubs, 7 of Hearts

\$435

Chat Notes Stats Info

Last Action  
T7mex checks





HE CHECKS BEHIND – IF HE BET HERE HE  
WOULD BE SOMEWHAT POLARIZED, SO HE IS  
LIKELY MEDIUM STRENGTH



# WE CHECK AND HE CHECKS BEHIND





ON THIS RIVER, THERE ARE VERY FEW HANDS TO REPRESENT, ALTHOUGH CHECKING WILL NEVER WIN THE POT, HE WILL CALL TOO OFTEN



WITH 2050 CHIPS TO START THE HAND, WE  
WOULD HAVE RERAISED IF HE OPENED FROM  
LATER POSITION





HE USUALLY BETS THIS FAIRLY SAFE FLOP, WE  
ARE USUALLY WAY AHEAD OR WAY BEHIND



# SO WE CALL





AFTER WE CALL THE FLOP, HE LIKELY ASSUMES THAT WE HAVE AN ACE OR 2 HEARTS MOST OF THE TIME. HIS BET IS USUALLY FAIRLY STRONG



[illegible]



WHEN HE BET THE TURN, WE THOUGHT HE  
HAD MANY BETTER HANDS THAN US AND SOME  
DRAWS, LETS LOOK AT HIS POLARIZED RANGE



## HIS RANGE AFTER THIS ACTION

- My flop calling range looks very strong on that turn, so he is very unlikely to bluff(in fact AJ no heart is the worst hand I will ever have)
- He will likely only value bet good hands on the turn (say AK, AT, 77, TT, AA and any flush), as well as good draws (say KhQ, KhJ, and KQh).
- After this river, the hands we beat are AT and AK and small flushes(very few worse flushes possible given Th, 9h and 7h all on board). These hands have no reason to bluff and will check
- All of his semi-bluffs on the turn now have us beat, so there are no bluffs he can possibly have. As a result, his “polarized” range here has no weak pole and as a result our hand will likely win 0% of the time if we call





WE FOLD. PEOPLE HATE FOLDING AFTER  
ABSOLUTE HAND STRENGTH HAS IMPROVED.  
FOCUS ONLY ON RELATIVE HAND STRENGTH



# AKS ON THE BUTTON. RAISE!





THIS FLOP IS FAIRLY MEDIOCRE. OUR HAND  
ISN'T VERY VULNERABLE AND VERY FEW  
BETTER HANDS WILL FOLD IF WE BET



HE BETS INTO US, THERE ARE MANY DRAWS HE  
COULD BE BETTING WITH AND A HAND LIKE KT  
THAT THINKS IT HAS 11 OUTS HAS 7





WE CALL



HERE HE MAKES A RELATIVELY WEAK 40% POT  
BET INTO US. MUCH LESS POLARIZED THAN SAY  
A BET OF 75%





[illegible]

# HE CALLS





HERE HE CALLED WITH QT- MANY PEOPLE GET  
STUBBORN WITH HANDS LIKE 3 PAIR, QT AND  
Q2 ARE EQUIVALENT



HERE THE SMALL BLIND RAISES THE MINIMUM-  
WE ARE GETTING OVER 4-1 IN POSITION. MANY  
SPECULATIVE HANDS CAN BE CALLED





HE CHECKS. ON A CO-ORDINATED FLOP LIKE THIS, PLAYERS OFTEN HAVE A HAND. CHECK-FOLD BAD HANDS, CHECK-CALL OK HANDS



I BET IN POSITION. THE MORE CO-ORDINATED A BOARD IS, THE LESS INCLINED YOU SHOULD BE TO SLOWPLAY. J,T,9 OR DIAMOND ARE ALL BAD





# THE OPPONENT CHECKRAISES. WHICH IS FAIRLY UNEXPECTED



# DISSECTING THE CHECKRAISE

- An opponent will usually make this checkraise for different reasons. We'll sort by his 2<sup>nd</sup> best option
- Check-raise instead of check-fold- opponents may do this with some draws they thought were too weak to check call such as K9 or As9s
- Checkraise instead of bet flop- He usually wants to bloat the pot with a strong hand(say KQ+) or strong draw(Qd9d, AdTd etc)
- Several strong hands will have me destroyed, and I won't win that much from the weaker hands. Calling to re-evaluate on various turn cards will be more profitable than trying to get all-in and typically folding out most of his bluffs





# SO WE ELECT TO CALL



# THE TURN CARD CHANGES THE BOARD A LOT.





## WHAT HANDS CHANGED?

- A hand like KQ became quite weak
- A hand like AT or A9 became fairly strong instead of a bluff
- A bluff like K9 is likely to continue
- KT is now a monster
- His 35% of pot often de-polarizes his range. K9 and KT become less likely, AT becomes more likely



WE CALL





RIVER IS VERY NON-THREATENING AND HE CHECKS



I BET 40% OF POT, I WOULD BET AT OR  
BETTER HERE AS WELL.





# HE CALLS



HERE HE CALLED SINCE HIS HAND DOESN'T  
MATTER THAT MUCH. I WILL HAVE AT OR  
BETTER OR KING HIGH OR WORSE.





[illegible]

# ONLY 12 PLAYERS LEFT, MOST OF THEM HAVE BEEN JUST TRYING TO ADVANCE. HOW DO WE STOP THIS GUY

- Simplest: Just be aggressive in pots he's not in, if he is exploiting cautious opponents, learn from him and follow his example
- Buuuut: Sometimes you will inevitably end up in situations where you must butt heads with the other aggressive player
- Preflop- be willing to play more hands against them
- Postflop- Realize 1) Weaker hands preflop mean that they will have weaker hands postflop on average. 2) Weaker ranges will connect with a lower percentage of boards





## WE CHECK



[illegible]



# COMPARING A TIGHT PLAYER'S RANGE ON THIS BOARD TO A LOOSE PLAYER'S RANGE

- Player raising 20%-  
22+,A7s+,K9s+,Q9s+,J9s+,T9s,ATo+,KTo+,QTo+,Jto. Of these hands, only 22-77, A7s suck on this board(3.0 % or 15% of his range), and Q9s+, Qto+ and J9s are all monsters(6.8% or 34% of his range).
- Player raising 50%
- 22+,A2s+,K2s+,Q2s+,J5s+,T6s+,96s+,86s+,76s,65s,A2o+,K5o+,Q7o+,J7o+,T8o+,98°
- Of these hands, 22-77, A2s-A7s, K2s-K7s, J5s-J7s, 76s, 65s, A2o-A7o, K5o-K7o, J7o all suck(16.9% or 34% of his range) and  
QQ+,TT,88,22,AQs,KQs,Q8s+,J9s,T8s,AQo,KQo,Q8o+,J9o, T8o are all monsters(12.4% or 25% of his range). This means that for every 10 value bets, player 1 has 4 bluffs, and player 2 has 14. He has to bluff 350% as often. As a result this seemingly co-ordinated board doesn't hit him nearly as much as it may appear



# WE CHECKRAISE





# HE CALLS



# WE BET AGAIN





## WHAT TO THINK OF HIS CALL

- Most players don't anticipate my checkraise to be a bluff very often. As a result if they have a hand like QT or TT they likely will just reraise the flop and get allin. This means he is often limited to one pair hands at best when he calls- many of which are still quite weak(as illustrated by the ranges shown on the last slide)
- As a result, if we bet the turn and plan to go allin on the river, he may occasionally have a strong enough hand to call, but a player this loose will usually just have something marginal



# HE FOLDS











# I BET



# HE CALLS





## VERY QUICK NOTES ABOUT HEADSUP PLAY

- As discussed in the previous slide about how often you must bluff when ranges are wide-headsup even tight players have very wide ranges and as a result relative hand value goes up substantially
- Rather than most examples in the past where you often only get one or two streets with top pair, you can get much more value with hands that have much weaker absolute strengths
- Here he would have reraised TT+ preflop, and checkraised most better hands on the flop, so I'm almost always best



HE CALLS. I BET AGAIN - THE AGGRESSOR CAN  
MAKE LIFE DIFFICULT BY BLUFFING THIS CARD  
A LOT SINCE OPPONENT'S RANGE IS "CAPPED"





# HE CALLS



# CAPPED RANGES

- This is a fairly important concept. On this board it is very difficult for the opponent to have a good hand. He would have reraised preflop or checkraised most hands that are strong on the flop. He would have folded most hands with a king in them, so unless he called with just king high or K4 or K6, he almost never has better than about T9.
- This opens him up for us to widen both parts of our polarized betting range (we can value bet thinner, and bluff weaker draws).
- With most bluffs, I will bluff river and as a result he has bad reverse-implied odds since he will have to call twice to figure out if I was bluffing, and even a hand as weak as say T8o has 7 outs to be able to value bet the river against him





HE CHECKS, AND I BET AGAIN. 95,65,54 AND 87 HAVE ALL IMPROVED BUT MOST HANDS ARE UNIMPROVED



# HE CALLS





# WITH A30



# I RAISE T80





Chat Notes Stats Info

Last Action

SE-R DET calls 160000\$



# HE CHECKS, I BET





# HE CHECKRAISES



## LETS LOOK AT WHAT HE CHECKRAISES

- Value hands: Any Ten(although he likely folds hands like T2-T5 preflop and thus usually has a bigger ten), 44
- Draws: Likely most flush draws, QJ, J8, 87 and some gutshots like J7 or 86
- Bluffs: Likely he has enough checkraises already that he doesn't intend to bluff here too often. Occasionally he may checkraise a hand like A4 or 55 to not have to deal with tougher decisions later





# HOW DO WE FARE IF WE GO ALLIN

- Against most of his draws, we will be a modest favorite, against most of his made hands we will be in mediocre shape
- T8 and AT may look similarly strong on this board(and in some situations headsup they would be), but when so much of the villains range is Tx, AT wins over 60%, T8o wins 40%(against a range that would take up like 5 lines to type out)
- We can look at various turn cards and have a much better indicator of how we fare(Additionally his bet-sizing will likely allow us to hugely narrow his range)



SO WE CALL (AS A SIDE NOTE, DESPITE ONLY HAVING 40% EQUITY, HE WOULD FOLD TO A RERAISE SOMETIMES, SO RERAISE>FOLD)





THIS IS LITERALLY THE WORST CARD IN THE DECK. IT COMPLETES ALL STRAIGHT AND FLUSH DRAWS AND HE MAKES A SMALL BET



# THIS HAND GOES FROM BEING FAIRLY STRONG TO A FAIRLY EASY FOLD





## THE RESULTS IN THE END

- Mike ended up winning the tournament for ~50k.

