



# BASIC EV CALCULATION LECTURE

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# THE BASIC EV CALCULATION

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- The basic EV calculation is commonly used to analyze the profitability of end-of-action spots, meaning the last play in a hand, such as a river call or pre-flop all-in.
- It's simple and is composed of two parts:
- **EV** = [Part A] - [Part B]
  - ▶ **Part A:** How often you win x How much you win
  - ▶ **Part B:** How often you lose x How much you lose
- This gives us the following equation:



$$\text{Basic EV} = (\% \text{ Win} \times \$ \text{ Win}) - (\% \text{ Lose} \times \$ \text{ Lose}) = (\text{Expected Long-Term Winnings}) - (\text{Expected Long-Term Losses})$$

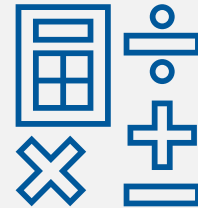
- So, it compares your long-term winnings and losses to determine if a play is profitable.



# COMPUTING EV IN 3 SIMPLE STEPS

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- **Step 1:** Determine how often you will win and how much you will win:
  - ▶ 80% of the time you will win \$500 =  $(.80 \times 500) = \$400$
- **Step 2:** Determine how often you will lose and how much you will lose:
  - ▶ 20% of the time you will lose \$250 =  $(.2 \times 250) = \$50$
- **Step 3:** Subtract how much you expect to lose from how much you expect to win:
  - ▶  $\$400 - \$50 = \$350 +EV$



# EXERCISE HAND #1



We open-raise to 3bb from MP with  $J\clubsuit J\spadesuit$ , both CO and BTN fold, a loose-passive opponent in the SB goes all-in for a total of 58bb, BB folds, and the action is on us. The current pot size is 62bb, and we need to commit an additional 55bb to call SB's all-in. Villain has been playing very passively all session, only raising their best hands, so we put them on an all-in range of QQ+, AK, and AQs. Having SB covered, we call. What's the EV of our call?

What's our equity?

Hero: 38.1% Villain: 61.9%

Step 1: Input Variables

$$EV = \left( \frac{.381}{\% \text{ Win}} \times \frac{62bb}{\$Win} \right) - \left( \frac{.619}{\% \text{ Lose}} \times \frac{55bb}{\$Lose} \right)$$

Step 2: Simplify & Solve Equation

$$EV = \left( \frac{23.62bb}{\text{Long-Term Winnings}} \right) - \left( \frac{34.05bb}{\text{Long-Term Loses}} \right) = \underline{-10.43bb}$$

Is this a +EV or -EV play?  +EV  -EV

Considering EV, Should we have made this call?  Yes  No

# EXERCISE HAND #2



In a \$1-\$3 No-Limit Hold'em game, a LAG with a \$750 stack open-raises to \$15 from UTG, and the action folds around to us in the BB with  $Q\heartsuit Q\spadesuit$ . With a \$300 stack, we 3-bet to \$50. Having us covered, villain puts us all-in for our remaining \$250. The current pot size is \$351, and we need to commit an additional \$250 to call UTG's all-in. Villain has been the table bully during our time at the table, pushing people around and not afraid to commit a lot of chips with a fairly wide range. So we put villain on a fairly wide range of 99+, AJ+, KQs, JTs, and T9s and make the call. What's the EV of our call?

What's our equity?

Hero: 62.9%      Villain: 37.1%

Step 1: Input Variables

$$EV = \left( \frac{.629}{\% \text{ Win}} \times \frac{\$351}{\$ \text{Win}} \right) - \left( \frac{.371}{\% \text{ Lose}} \times \frac{\$250}{\$ \text{Lose}} \right)$$

Step 2: Simplify & Solve Equation

$$EV = \left( \frac{\$220.78}{\text{Long-Term Winnings}} \right) - \left( \frac{\$92.75}{\text{Long-Term Loses}} \right) = \underline{\$128.03}$$

Is this a +EV or -EV play?    +EV       -EV

Considering EV, Should we have made this call?    Yes       No