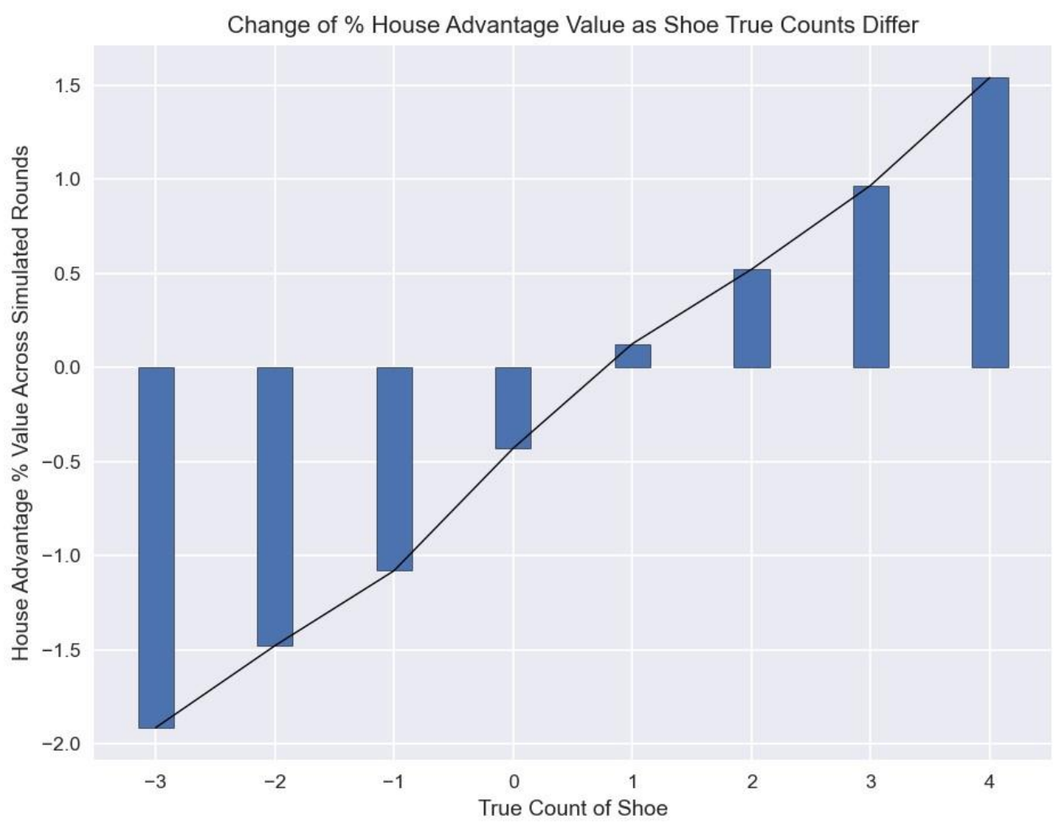
Investigation And Simulation of Card Counting In Blackjack

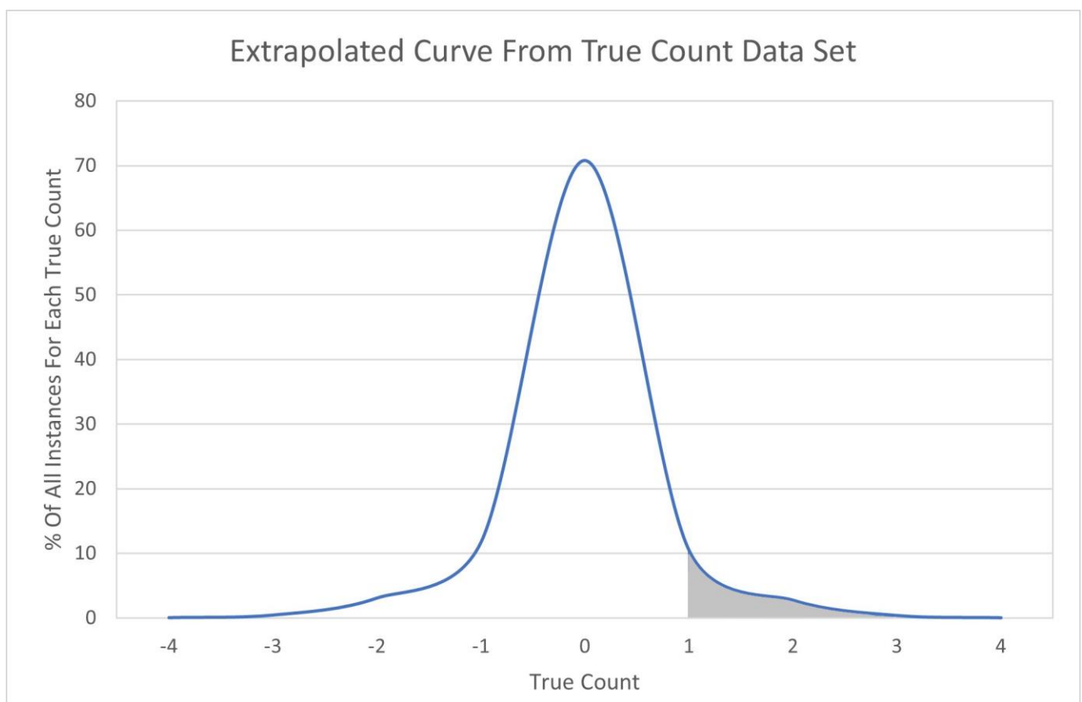
James Hayes O'Brien - CMP

University of East Anglia

Blackjack is one of the most well-known card games in the world. Like Pontoon and the many other variants like it, the game operates a simple as a simple "21"-type card game. While blackjack – like every card game – is ultimately a game of luck, the decisions made by the player throughout the game can help a player optimize their odds of success. The use of "Basic Strategy" will result in the average player betting odds falling around -0.5%.

If we can track the value of every card as it is dealt from the deck, we can make determinations about the composition of cards remaining in the shoe with a "True Count"– allowing an estimation of the betting odds of upcoming rounds before they take place. When the true count surpasses a value of 1, the betting advantage shifts from the casino to the player. Unfortunately, the number of instances where the true count is equal to +1 or higher before rounds are few.





To take advantage of these circumstances as they occur a player must taper their bets to wager more when the shoe is more favorable.

Different card count systems feature different changes to be made to the overall count of the shoe as cards are dealt. Of the various card count methods both the KnockOut and HiLow count systems can make an improvement to player odds to -0.3% with relative simplicity. Whereas the WongHalves count system can offer an improvement as high as -.22% at a higher cognitive demand of the player. While the addition of playing deviations to be made as current true count changes can then further improve the betting odds of a player by 0.1%, unfortunately blackjack is not game where reliable profits are likely to be made.