

[BACK TO BR HOME](#)

PREVIOUS

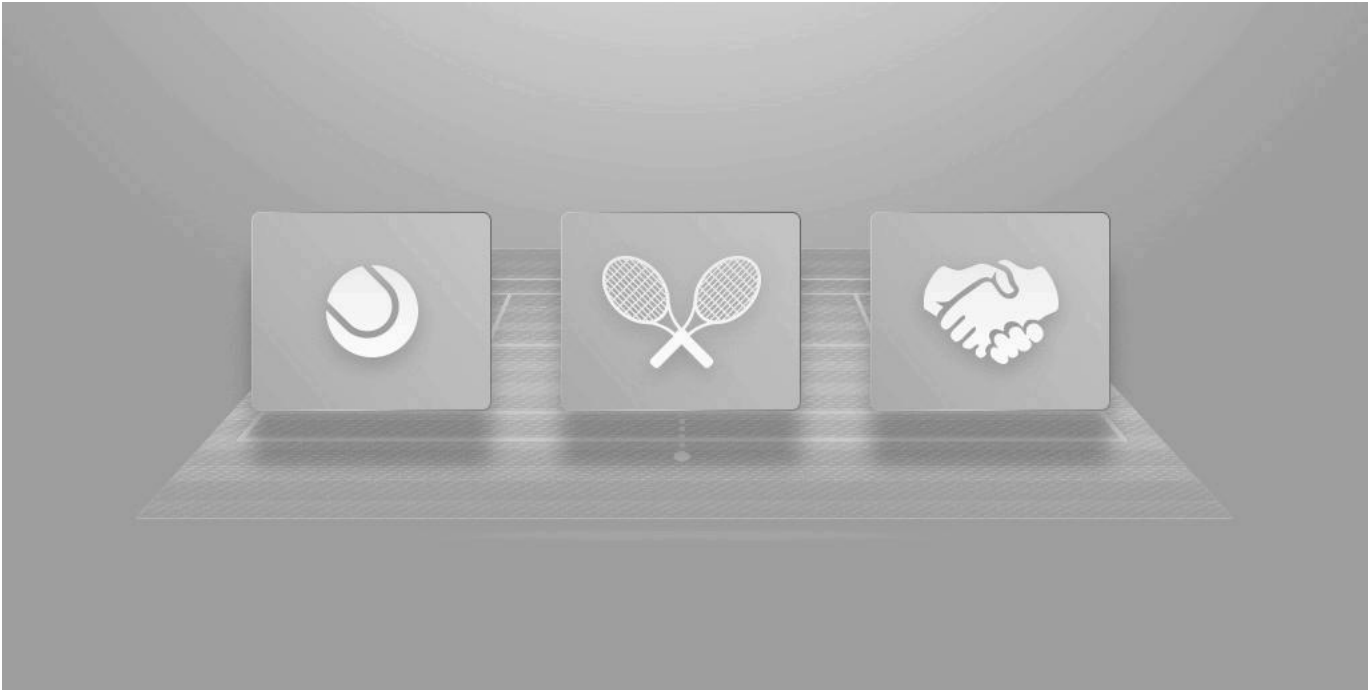
NEXT



JONATHON BRYCKI   TENNIS   DEC 7, 2018

# Game, set, match: How to price a tennis match

Pricing a tennis match  
Point, game, set, and match winner probabilities



In this article Monte Carlo simulations are used to analyse the probability and odds relationships behind a number of popular tennis betting markets. Serve and return efficiency of the top ATP players will be used to assess game, set and match winners.

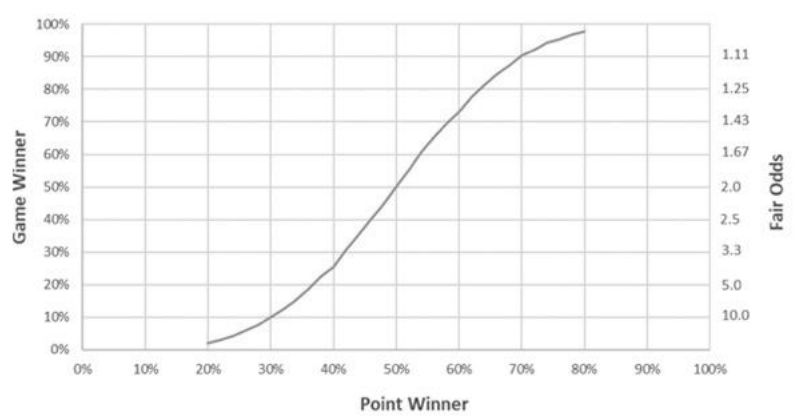
Similar to other sports with point-based scoring, the path to victory for any tennis player is known. Points win games, which win sets, which win matches.

If we price points, we can price games, sets and ultimately matches. Understanding the probabilistic relationship between these is important when betting on tennis.

### Game winner

A tennis game is won by the player who is first to four points, with a margin of two. If we know the probability that a player will win each point, we can determine the probability, and thus the fair odds, of winning a game.

Below I plot game winner probabilities and respective fair odds at varying point winner probabilities. For each point winner % I simulated 10,000 games to estimate the game winner %.

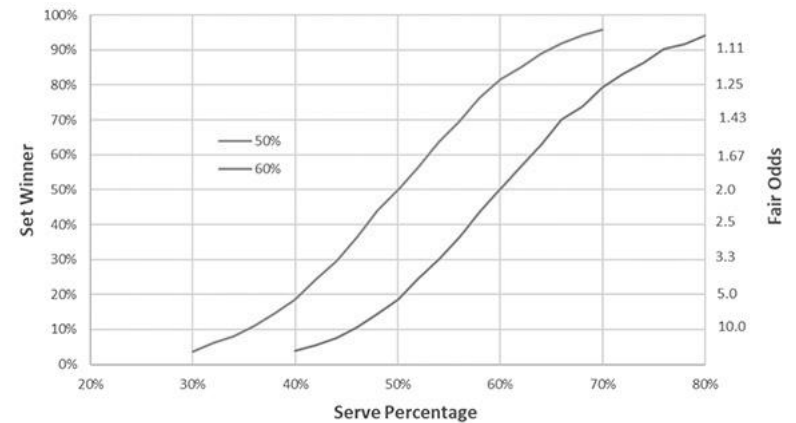


If we think of the point winner probability as a serve percentage, the game winner % becomes a service hold %. For example, if Kyrgios wins 70% of points when serving, he should win around 90% of his service games. Odds greater than 1.11 for him to win a service game may therefore be value.

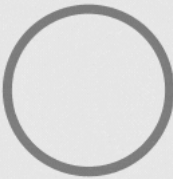
### Set winner

If both players have identical estimated serve percentages, their probability of winning a set will be 50%. What may be of interest to a tennis bettor is how this probability changes when one player has a superior serve percentage.

The chart below graphs this relationship, holding one player's serve percentage constant, at 50% (orange) and 60% (blue). Again, I used 10,000 simulations to estimate set winner probabilities.



A player who wins 60% of points on serve playing against a player who wins 50%, should win around 80% of sets (fair odds of 1.25). Similarly a player with a serve



POPULAR RECENT

LAST MONTH ALL TIME

FOOTBALL JUST NOW

NFL predictions: Super Bowl LVIII best bets

SOCCER YESTERDAY

Premier League predictions

BASKETBALL THIS WEEK

EuroLeague basketball predictions

BASKETBALL THIS WEEK

NBA predictions: This week's biggest NBA games

SOCCER LAST WEEK

LaLiga Predictions

#### RELATED ARTICLES

JAN 10, 2024

Australian Open 2024 betting preview

NOV 10, 2023

Nitto ATP Tour Finals 2023 Men's Singles preview

OCT 2, 2023

How to estimate the true odds in tennis

AUG 22, 2023

US Open 2023: Men's Singles betting preview

AUG 22, 2023

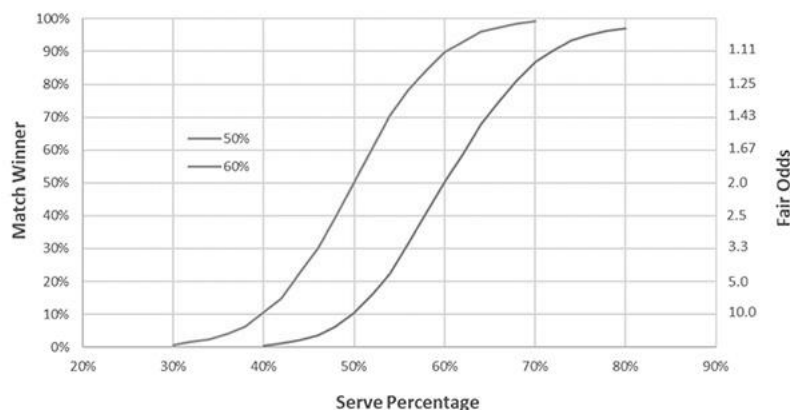
US Open 2023: Women's Singles betting preview

should win around 80% of sets (fair odds of 1.25). Similarly, a player with a serve percentage of 70% is expected to win around 80% of sets against a player with a serve percentage of 60%.

That the lines are remarkably parallel shows that it is the difference between serve percentages that is the key to pricing set winner odds. A player who has a service percentage 10 percentage points higher than their opponent can expect to win around 80% of sets (fair odds 1.25).

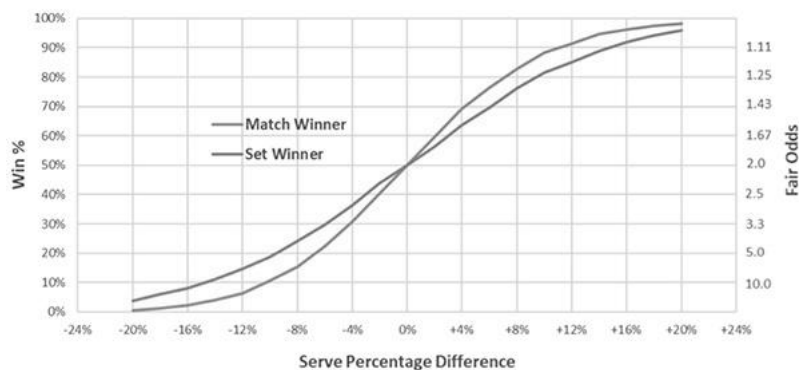
## Match winner

Using the same simulation technique, the chart below plots match winner probabilities. The simulations reveal a similar curve, with a steeper gradient. When a player wins 4% more points on serve than their opponent, they can expect to win the match around 70% of the time. The fair odds for this player would be 1.43.



The relationship between the difference in the two players' serve percentages and their chance of winning the match is shown in the chart below (estimated using the above simulations) for both set and match winner.

For example, a player would be expected to win 76% of sets and 83% of matches when their serve percentage is 8 percentage points higher than their opponents.



How else can we interpret this chart? If a player has odds of 5.0 to win a match (set), and you believe that they will perform better than winning 7% (10%) less points on serve than their opponent then their match (set) odds may offer value.

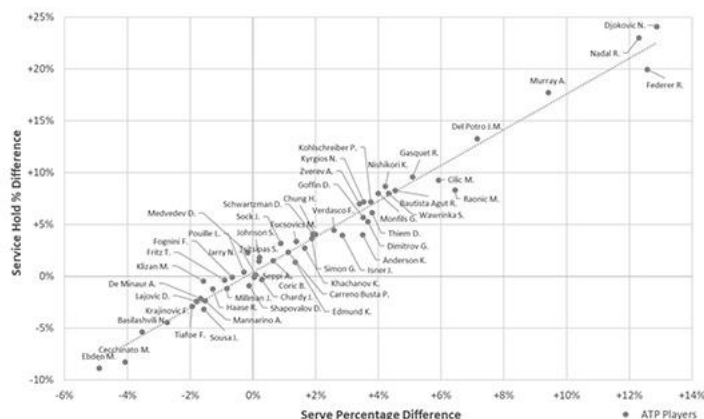
Alternatively, if you think a player will win more than 4% more service points than their opponent, odds greater than 1.55 and 1.43 for a set or match respectively may offer value. This is because they are expected to win 65% of sets and 70% of matches with this differential.

In ATP matches, the server wins around 64% of service points and wins 78% of service games, on average. In all matches since 2010, the top 50 players' serve percentage ranges from 72% (Isner, Raonic and Federer) to 60% (Basilashvili). Return percentages range from 44% (Djokovic) to 30% (Isner).

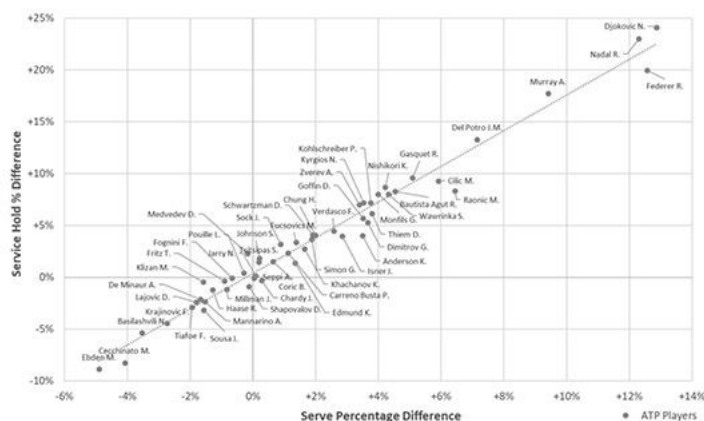
The chart below plots the average difference between a player and their opponent's serve percentage against the average difference in their hold percentages. As we would expect, there is a very strong relationship here.

Players sitting below the trend line are generally more efficient servers and above will be better returners. Consider Federer. On average he wins 12% more service points and 20% more service games than his opponent.

For a similar average serve percentage difference, Nadal (+12%) and Djokovic (+13%) have a significantly bigger advantage in hold differential (+23% and +24% respectively). They are slightly less efficient on serve, and slightly more efficient when returning.



While winning a higher percentage of service points and games will go a long way to winning a match, given tennis' unique scoring system, the timing of points won within a match is also very important. If we compare the average difference in serve percentage to match results, we can see which players are efficient at converting points won into match wins.



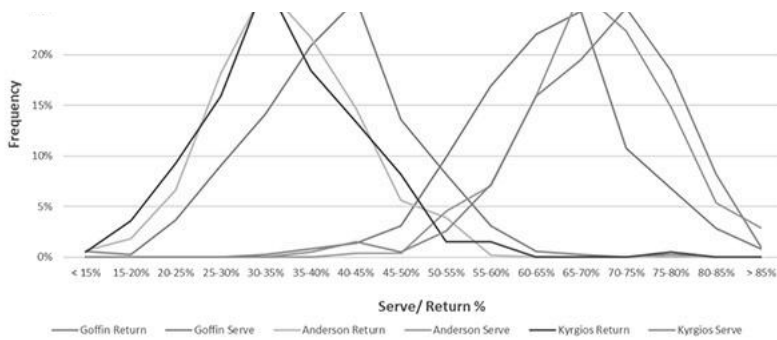
The orange line plots the match winner simulation from above. If tennis matches were played in excel, this is where we would expect all players to plot. But not all tennis points are equal. Winning a point at 30-30 or 30-40 is arguably more valuable than winning a point at 0-40. Consider Kyrgios, Goffin and Anderson.

All three players average +4% serve percentage but Kyrgios has won 67% of his matches, considerably more than both Goffin (59%) and Anderson (57%).

Is Kyrgios better on big points? Does he take the foot off the pedal in games and sets when he's either a long way ahead or behind? Or has he had more luck? You could likely make a case for all three.

Let's consider the effect variation in performance may have had on their results. The chart below plots the frequency of the three players' serve and return percentages.





While the standard deviation their serve and return percentages is very similar, Kyrgios has a moderate negative skewness in his serve percentages and a moderate positive skewness in his return percentages. In comparison, Goffin and Anderson’s distributions are closer to symmetrical.

This may suggest an unpredictability in performance has served Kyrgios well. While the reason for this variation may only be known by Kyrgios himself, it could result from increased risk taking or greater concentration on big points.

### Game, set, match

In so far as bookmaker tennis odds are likely always priced from serve percentages, understanding this method, as well as the consequent relationships between point, game, set, and match winner probabilities, is valuable for a tennis bettor.

In a previous article I showed the effect of momentum between sets in tennis. Adding a momentum factor would allow this model to be extended to more accurately price game totals and handicaps, as well as in-play odds. Keep an eye out for this in a future article.

**Category:**

TENNIS

**Tags:**

TENNIS MAJORS    TENNIS

BR HOME

SEE THE LATEST ODDS HERE

**Share this article on**

**About the author**

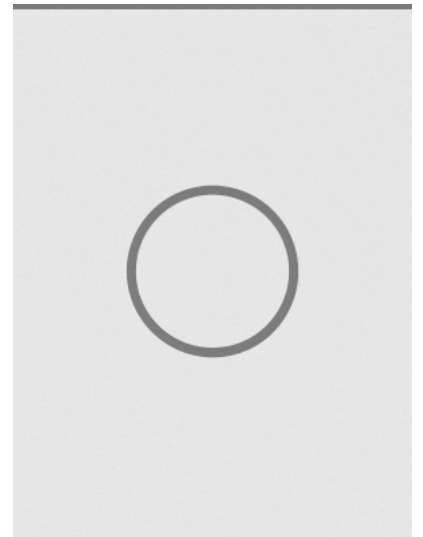


**Jonathon Brycki**



Jonathon studied Finance and Economics at the University of Sydney, where he wrote a thesis on EPL betting market efficiency as part of his Finance Honours degree. He has since worked as an Equity Strategist and as a Bookmaker. Jonathon has a particular interest in tennis, cricket, and behavioural biases.

SEE MORE ARTICLES BY JONATHON BRYCKI

SHOW TEAM



**Tweets from @Pinnacle**




**Pinnacle** 



@Pinnacle · 3h

Get ready for the Super Bowl with a full betting preview covering main markets and player props, courtesy of @Ben\_R\_Brown\_ from @SumerSports! 🙌🏈

#SuperBowlLVIII

[pinnacle.com](https://pinnacle.com)  
NFL Betting Analysis and Predictions

  1 

**Pinnacle** 

@Pinnacle · 6h

If you are backing the underdog

### Article suggestion

Got an idea for an article?

GET IN TOUCH

## Betting Resources - Empowering your betting

Pinnacle's Betting Resources is one of the most comprehensive collections of expert betting advice anywhere online. Catering to all experience levels our aim is simply to empower bettors to become more knowledgeable.

## Sports Betting

Soccer Betting  
Basketball Betting  
Baseball betting  
Football Betting  
Tennis Betting  
Hockey Betting  
Esports Betting

## About Pinnacle

Corporate  
Press  
Affiliates  
B2B  
Why Pinnacle?

## Policies

Responsible Gaming  
Terms & Conditions  
Privacy Policy  
Cookie Policy

## Help & Support

Contact Us  
Betting Rules  
Help  
System Status  
Sitemap  
Payment Options

## Social

Facebook  
Twitter  
LinkedIn  
YouTube  
Apple Podcasts  
Spotify  
SoundCloud



Gambling can be addictive. Please know your limits and gamble responsibly.



Impyrial Holdings Ltd, 8A Pitmans Alley Main Street, Gibraltar GX11 1AA, acting for processing purposes on behalf of Ragnarok Corporation N.V.

Pinnacle.com operates with the licence of Ragnarok Corporation N.V., Pletterijweg 43, Willemstad, Curaçao, which is licensed by the government of Curacao under the Licence 8048/JAZ2013-013 issued for the provision of sports betting and casino.

Pinnacle is a registered trade mark.

Online sports betting from Pinnacle bookmakers – your premier international sportsbook © 2004–2024 Pinnacle

Pinnacle, Pinnacle Sports, Pinbet, Pinny and all other derivative marks are registered trademarks of Pinnacle. Any and all content on the website (desktop and mobile), including sports odds, are proprietary and may not be copied or disseminated without the express written consent of Pinnacle. All Rights Reserved.

