

# NBA Midseason MVP Analysis

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With 51 games of the season complete, this analysis uses the metrics gathered from the Lean Basketball Analytics' (LBA) platform to identify the top MVP candidates. Nikola Jokic has won the award the past two years strongly based on his outstanding efficiency metrics. More traditional basketball fans believe the MVP should be awarded to the best player on the best team. I examined the MVP race through both of these lenses along with who has the greatest impact on their team, i.e. the greatest change in overall team performance when they are on the floor.

If we were to simply look at the best players on the top teams, our shortlist would include:

- Jayson Tatum – Boston Celtics
- Giannis Antetokounmpo – Milwaukee Bucks
- Nikola Jokic – Denver Nuggets
- Joel Embiid – Philadelphia 76ers
- Donovan Mitchell – Cleveland Cavaliers
- Ja Morant – Memphis Grizzlies
- Kevin Durant – Brooklyn Nets & Phoenix Suns

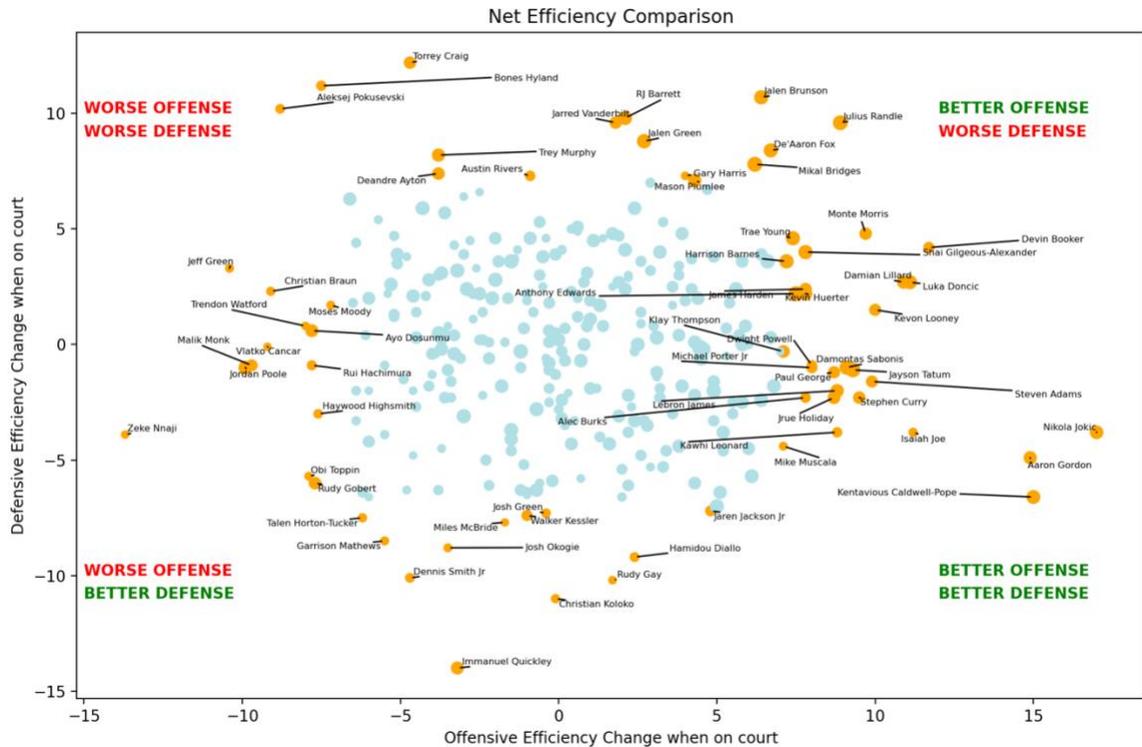
I will return to this list to see if this benchmark is outdated or if it's truly representative of the best players in the league.

## Net Efficiency

The first metric I investigated was the difference in offensive and defensive efficiencies for the team when the player is on or off the court. Utilizing the On/Off feature of the LBA platform, I calculated a difference in net efficiency for players who make an offensive or defensive impact in the game. A reminder that efficiency statistics for the team are calculated on a per 100 possession basis to eliminate any bias from teams playing at different tempos. As an example, if a team's defensive efficiency is 110, they allow 110 points per 100 possessions rather than per game.

The graph below displays the difference in the teams' offensive and defensive efficiencies when a player is on vs off the court. Ideally, a player should boost their team's offensive efficiency and reduce the defensive efficiency – the corners of the graph are labeled as such (players making productive impacts on both ends of the court will float towards the bottom right of the graph). I have labeled in orange all players who fall into the extreme circumstances of net efficiency impact. This includes anyone who improves or weakens their team's offense or defense by a margin of 7 points per 100 possessions while on vs off the court. Additionally, the

size of the scatter point is correlated with the number of possessions the player has been a part of relative to their team's total possessions.



For starters, Jokic (+17 Delta Offense, -3.8 Delta Defense), Aaron Gordon (+14.9, -4.9), and Kentavious Caldwell-Pope (+15, -6.6) comprise a fascinating trio that emphasizes how well Denver has performed this season as they currently sit atop the Western Conference. Other stars who excel on both ends of the floor include Jayson Tatum (+9.3, -1.1), LeBron James (+8.8, -2), Damontas Sabonis (+9.1, -1), Jrue Holiday (+8.7, -2.3), Paul George (+8.7, -1.2), and Kawhi Leonard (+8.8, -3.8).

Some instances of offensive stars who weaken the defensive efforts include Luka Doncic (+11.1, +2.7), Shai Gilgeous-Alexander (+7.8, +4), Damian Lillard (+10.9, +2.7), and Devin Booker (+11.7, +4.2). Examples of defensive forces on the court that have been unable to improve the offensive side include Rudy Gobert (-7.7, -6), Immanuel Quickley (-3.2, -14), and Obi Toppin (-7.9, -5.7).

The table below compares the traditional set of candidates alongside some players that don't meet the conservative criteria but excel in improving their team's net efficiency.

Traditional MVP Candidates			Challengers		
Player	$\Delta$ Off	$\Delta$ Def	Player	$\Delta$ Off	$\Delta$ Def
Jayson Tatum	9.3	-1.1	Kawhi Leonard	8.8	-3.8
Giannis Antetokounmpo	1.9	-3.1	Jaren Jackson Jr	4.8	-7.2
Nikola Jokic	17	-3.8	Lauri Markkanen	6.1	-5.7
Joel Embiid	4.3	-6	Steph Curry	9.5	-2.3
Donovan Mitchell	0.7	-0.7	Jrue Holiday	8.7	-2.3
Ja Morant	4.3	-2.2	Lebron James	8.8	-2
Kevin Durant	5.2	-3.8	Domantas Sabonis	9.1	-1

## Player Efficiency Rating

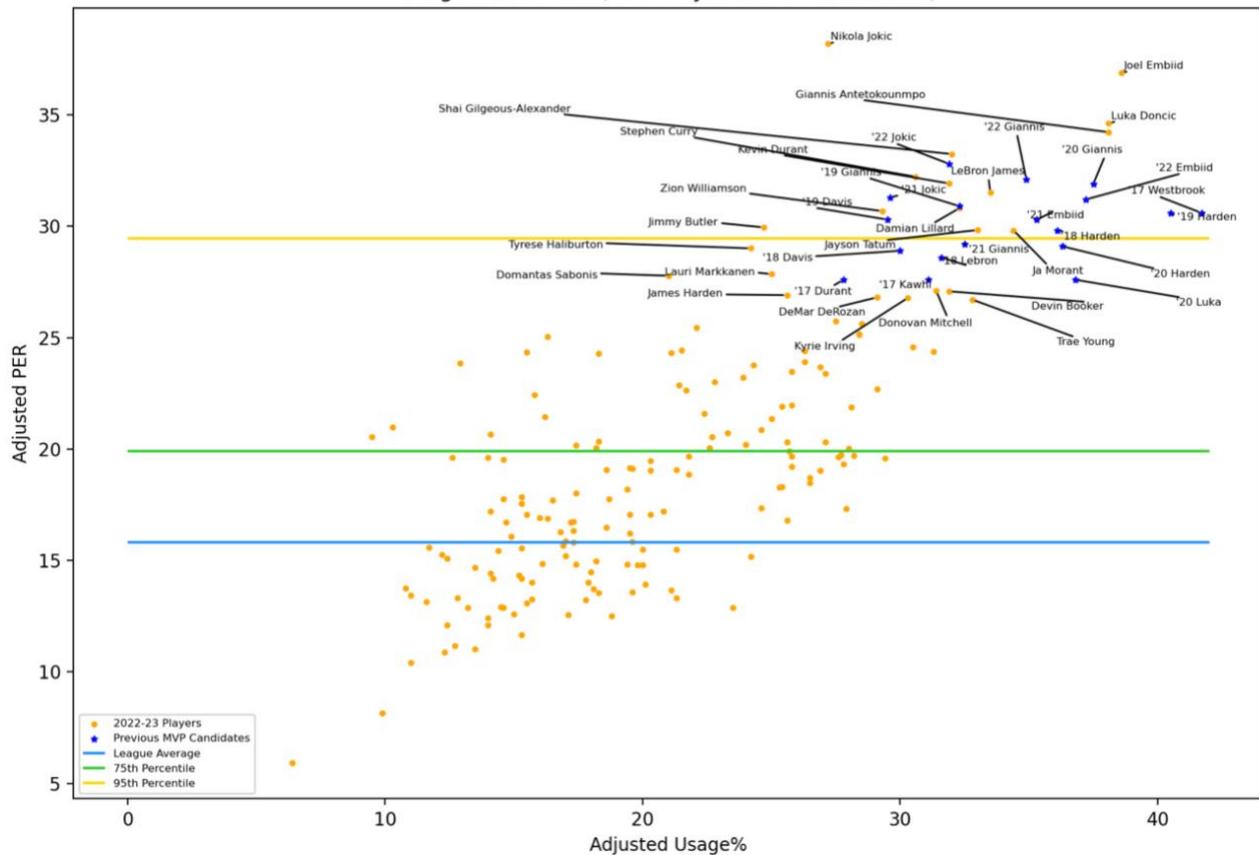
The next lens to view player performance is through adjusted PER (Player Efficiency Rating) found on LBA's platform. The metric combines almost every box score statistic into a single metric to evaluate player performance. It rewards positive plays such as points, rebounds, assists, and penalizes low field-goal percentage, fouls, and turnovers. For a more detailed description on the formula, you can read about it [here](#).

I plotted PER against adjusted Usage Rate which is a way of measuring how much of a team's offense runs through a given player. Given that a typical basketball possession ends with a missed or made field goal or a turnover, it represents a percentage of those instances that were attributed to that player.

*(If you want a fascinating read on "How Michael Jordan Broke the PER vs Usage Rate Debate", check out Dean Oliver's book *Basketball on Paper*)*

The graph below includes players from this season who have played a minimum of 2000 possessions and includes some guiding quantile lines. I have also included the top three finishers in MVP voting from previous years to gain better understanding where this year's candidates fall.

Usage versus PER (Min. Played 2000 Possessions)



Nikola Jokic, Joel Embiid, and Giannis Antetokounmpo have finished in the top three together in MVP voting for the past two seasons with Jokic taking the award home each time. In jaw dropping fashion, all three are putting up numbers that are even better than they have produced in previous years. Joel Embiid has a chip on his shoulder for not winning MVP yet and is playing his heart out to make his case, but it's no match for Jokic's insane adjusted PER of 38.2, per LBA's metric.

Zooming out, each season typically a couple of players exceed the adjusted PER of 30, and it would almost guarantee a top three finish in MVP voting. However, there are an astounding ten players who are currently sitting above 30 with Zion Williamson placing 10<sup>th</sup>. Other candidates with a PER above 30 this season include Luka Doncic, Shai-Gilgeous Alexander, and Damian Lillard. Through this perspective, many would say they easily enter the MVP conversation despite their teams' defensive troubles. Jayson Tatum and Donovan Mitchell, while playing on teams with better records, are just shy of this elite echelon.

Moreover, Nikola Jokic has exhibited through all three lenses that he is miles apart in the MVP race. Players like Embiid and Giannis are still putting up incredible seasons but will continue to be looked over. More traditional candidates such as Jayson Tatum and Donovan Mitchell

cannot compete in the efficiency metrics as well as other players which helps build a case against team record being the most important factor.