Atlanta Hawks Basketball Strategy & Analytics Report
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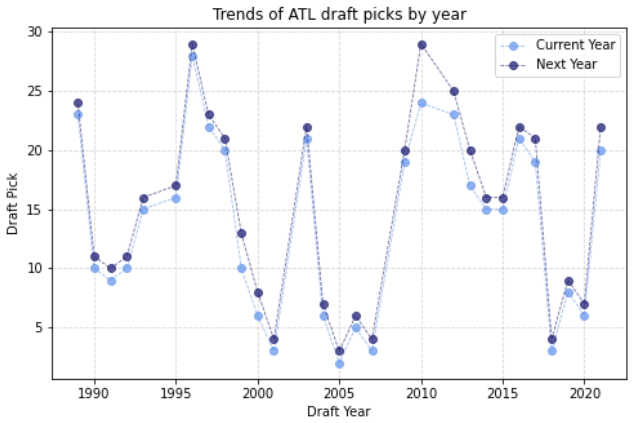
Part 1: Data Comprehension

The first goal was to find which NBA teams drafted the most players from Duke before or during the 2000 draft. It was found that DAL, MIN, and PHO all drafted the most players (two) who met those conditions.

The second goal was to find which NBA teams drafted the most players with names that began with D and were drafted in an even-year draft. It was determined that BOS and the OKC/SEA franchise have drafted the most players (seven) meeting that criteria.

The last goal of this section was to describe the relationship between a team's first-round pick slot in one year with their first-round pick slot in the subsequent year. It was difficult to find a true relationship between the two without having any knowledge regarding trades. However, it was found that each team goes through a 4-6 year sine phase. Without accounting for trades, the chart shows that a team will have a couple of top picks in back-to-back years, followed by lower picks. This is most likely related to the team performing well. There is a peak, then a team will start the cycle again.

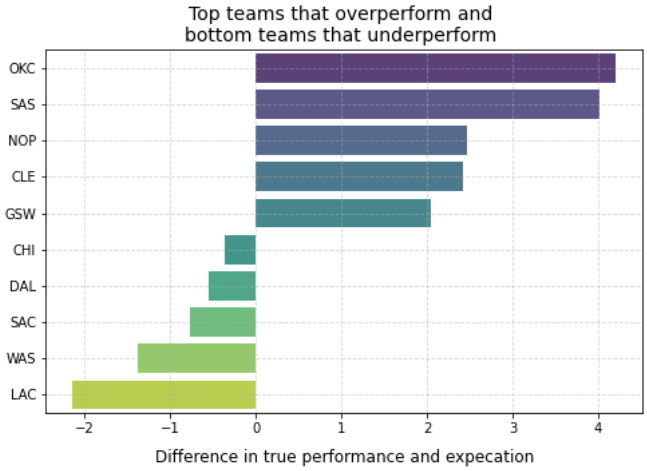


Part 2: Analytical Acumen

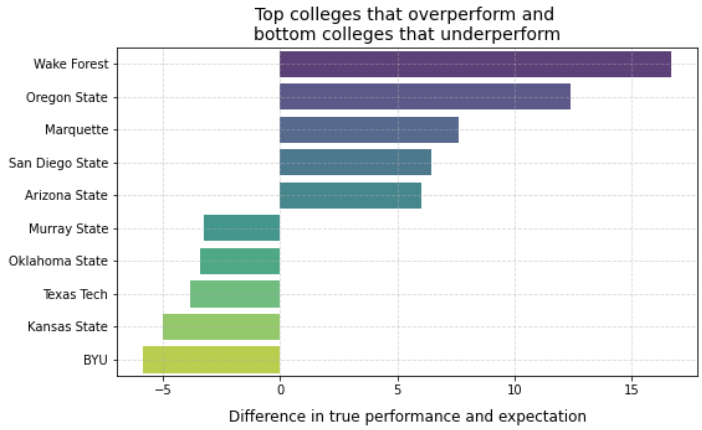
The goal was to analyze draft position value and NBA team success and deficiencies compared to the expectation of each draft pick.

Draft Slot Value:

After examining the dataset and removing outliers, player value over replacement (VORP) was used to determine the value of each draft slot. The data followed an exponential trend, and an equation was derived using the curve_fit function in Python. Using the derived equation, an expected VORP was estimated for each draft pick (1-60). With this metric, it was determined that OKC drafts players that most outperform their expected draft value and that LAC drafts the players that underperform the most.



Similarly, of colleges that have had at least four players drafted in the NBA, Wake Forest has produced the most players that outperformed their expected draft value while BYU has produced the most players that have underperformed their expected draft value.



I was surprised to see that none of the “Blue Bloods” were considered overperformers. This is most likely because the players from those schools are typically higher draft picks, giving them a higher expected value. For example, Bam Adebayo of Kentucky and Montrezl Harell of Louisville have the same VORP but since Adebayo was drafted 14th, his expected VORP is 3.6. In comparison, Harrell, drafted 32nd, has an expected VORP of 1.1. This suggests that Harrell is outperforming expectations more than Adebayo.

Recommendations:

To increase the accuracy of expected VORP, it would be ideal to have season-by-season data for the first four to six years of each player's career. It would also be helpful to have any draft trade data to know where a team is expected to draft.

Sources:

StackOverflow and PythonGraphGallery were used to enhance the plots.