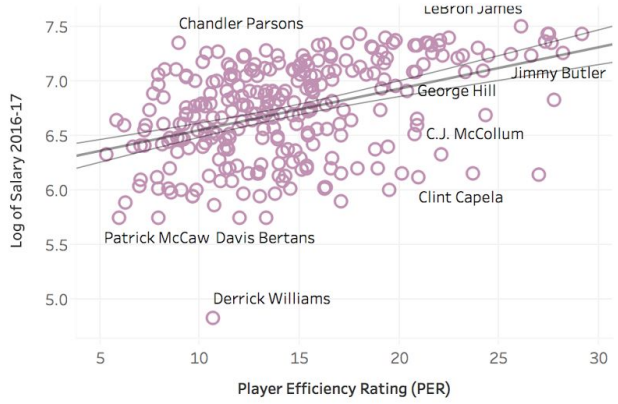
Kelly Xie
Analytics and the Digital Economy
Prof. Tambe
Lab 2: NBA Drafts

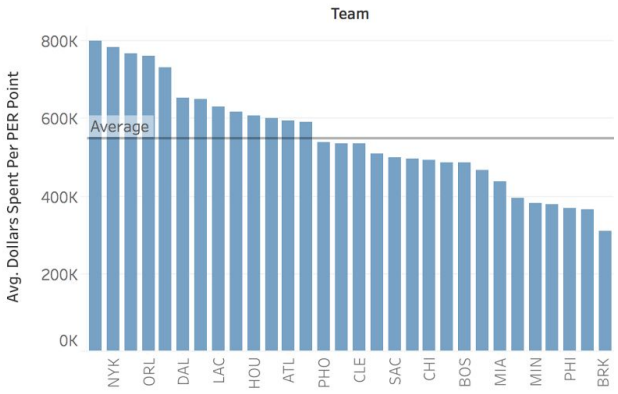
# NBA Draft Day Dashboard

Analysis of  draft positions versus player performance versus salaries

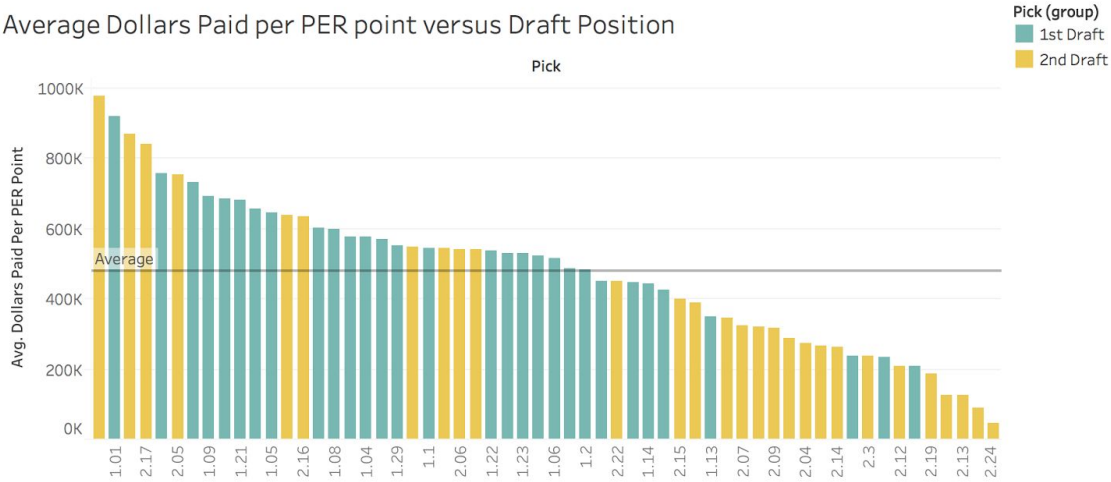
Player Efficiency Rating (PER) versus Salary by Player




Average Dollars Spent per Efficiency Rating Point by Team




Average Dollars Paid per PER point versus Draft Position




*See breakdown of each graph below.

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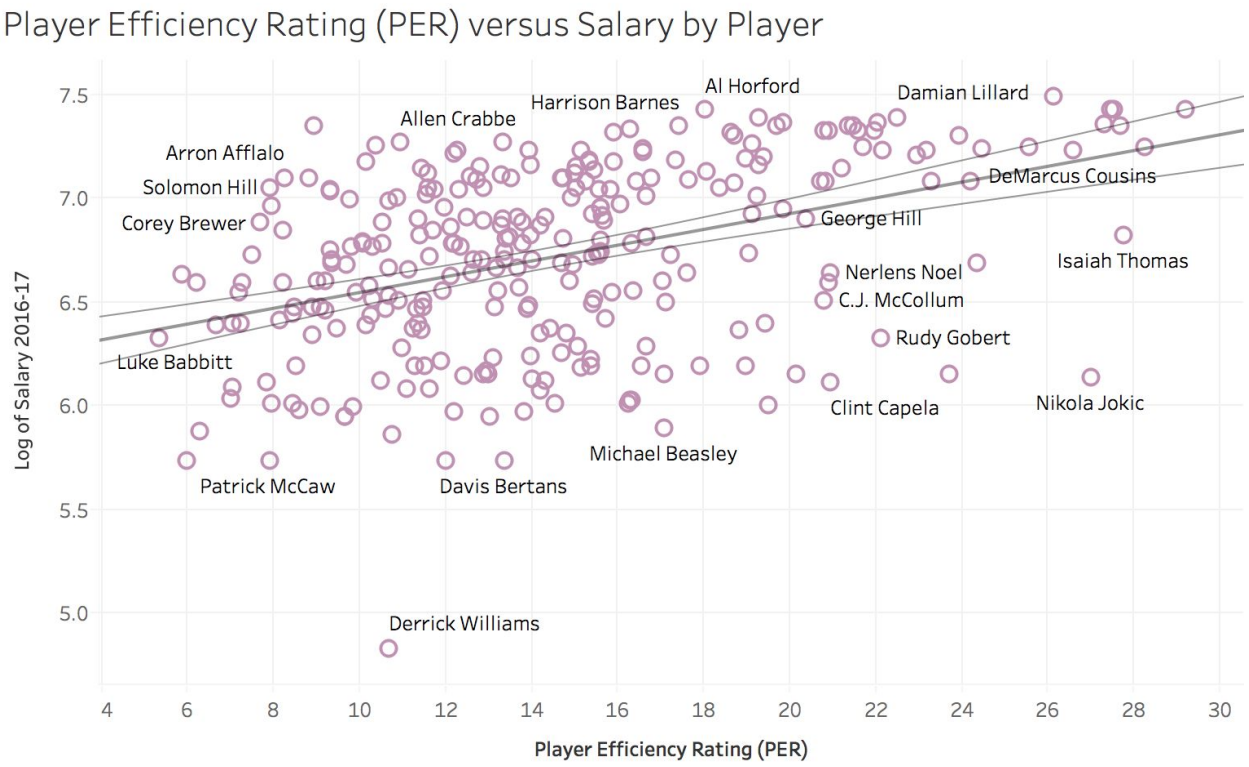
# A. Player Efficiency Rating Chart

## I. Chart




Player Efficiency Rating (PER) vs. Log of Salary 2016-17. The marks are labeled by Name.

## II. Analysis

Average Trend Line:

Log of Salary 2016-17 = 0.0380288*Player Efficiency Rating (PER) + 6.16263
R-Squared: 0.175283
P-value: < 0.0001

According to the chart, currently the most significantly overpaid players are **Chandler Parsons** and **Luol Deng**, who have high salaries relative to their efficiency ratings (top-leftmost quadrant of the scatterplot). We can confirm this by calculating each player's ratio of Salary to PER. We see that Parsons and Deng have the two highest ratios, at 0.8216 and 0.6989 respectively.

| | |
|---|---|
| Log of Salary 2016-17: | **7.345** |
| Name: | **Chandler Parsons** |
| Player Efficiency Rating (PER): | **8.94** |

| | |
|---|---|
| Log of Salary 2016-17: | **7.255** |
| Name: | **Luol Deng** |
| Player Efficiency Rating (PER): | **10.38** |

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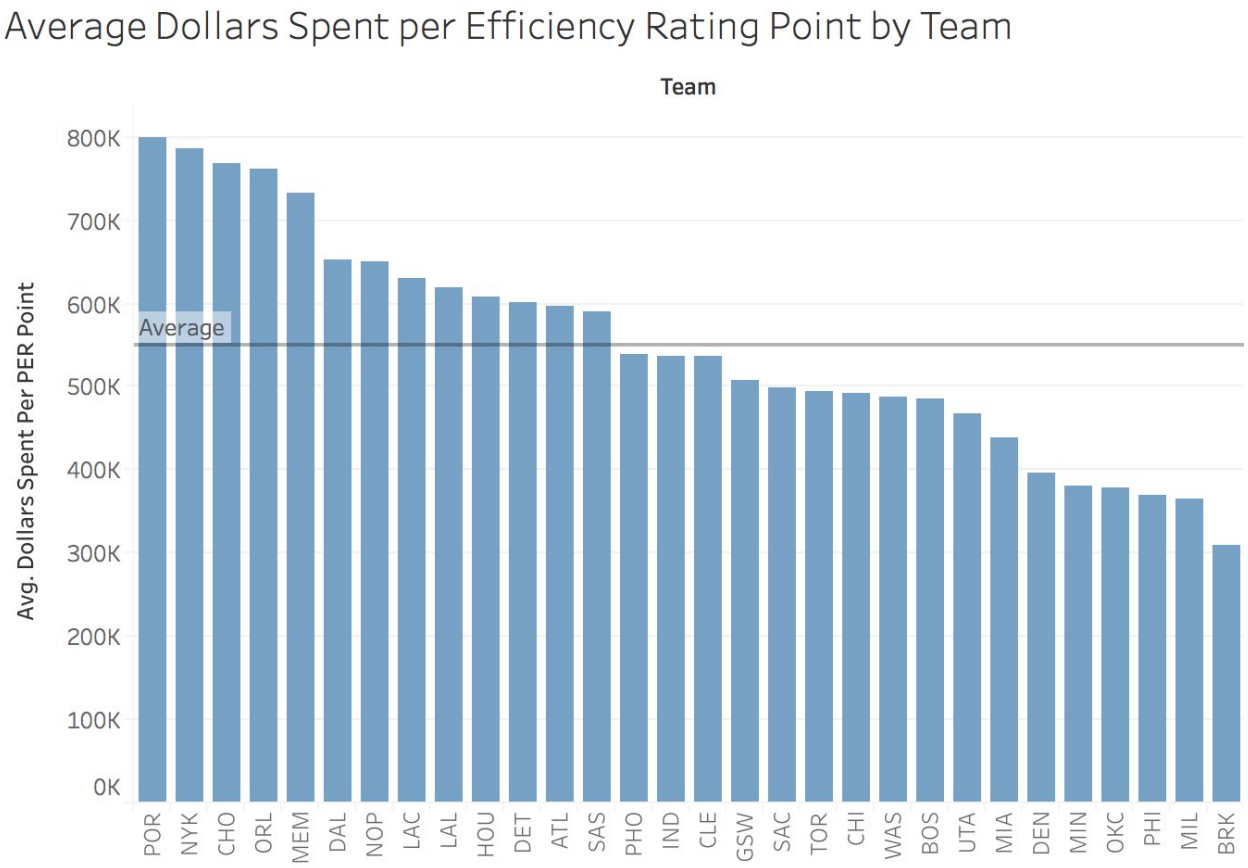
## B. Dollars Per Efficiency Rating Point

### I. Chart




Average of Dollars Spent Per PER Point for each Team.

### II. Analysis

According to this metric, the best NBA team is the **Brooklyn Nets [BRK]** at $310,471 per PER point, followed by the Milwaukee Bucks [MIL] at $365,768; the Philadelphia 76ers [PHI] at $369,360; and the Oklahoma City Thunders [OKC] at $379,143. The worst NBA team is the **Portland Trail Blazers [POR]** at $799,644 per PER point, followed by the New York Knicks [NYK] at $785,216; the Charlotte Hornets [CHO] at $768,332; and the Orlando Magics [ORL] at $762,522.

*Average spending per PER point across all teams is $554,486 per point.

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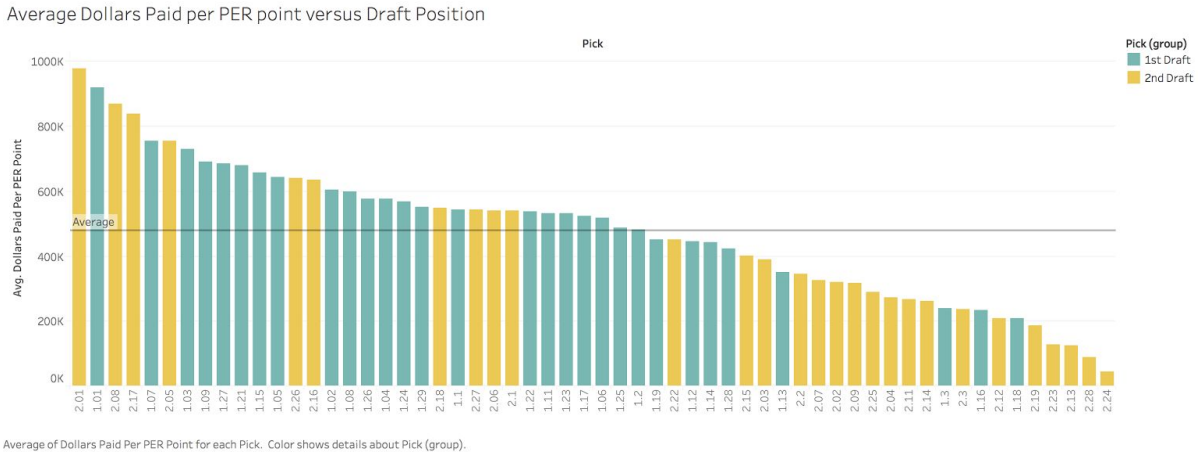
## C. By Draft Position

### I. Chart




### II. Analysis

According to the chart, NBA managers see that they can get the greatest bang for their buck for the picks on the right hand side of the chart that lie below the average line. Players in these draft positions require **below average* spending per Player Efficiency Rating (PER) point**, meaning that these drafts maximize player performance while minimizing salary costs. Seeing that a large percentage of these below-average-cost players come from the second draft (yellow), managers might be well advised to focus on/choose players from the second draft rather than the first to maximize profits and team efficiency.

*Average spending per PER point across all draft positions is $478,918.