

A Basketball Project

This paper is a commentary file for the statistical project we have completed. In this project we investigated the question, which factors may have a significant impact on the effectiveness of NBA players. We believe that the number of 3 point shots attempts and 2 point shots attempt are significant indicators of NBA players' performance, thus, their average points per game depend on these factors. This is our hypothesis (described at slide 1)

A picture in slide #2 is how the typical three-point shot looks like. On slide #3 we can see the description of the data collected and how it was measured. Y variable is a dependent variable and X1 and X2 are independent variables. The idea of the project is to develop a multiple regression for Y, X1 and X2. The general equation form is given on slide #4.

All necessary calculations were performed in STATA software. On slide #5 we show the output of the regression analysis and also the main characteristics of the obtained equation. Slide #6 describes coefficient of determination and its interpretation. According to the STATA output, the significance and R-squared coefficient we estimate this equation as a quite good to use and make forecasts. On slide #7 we show regression coefficients interpretation and we conclude that both factors included in the model are significant.

As a comparison, we also want to check another type of regression model which may fit the data. On slide #8 we show the general form of the log-log regression. We modify the data accordingly, calculating logarithm of Y, X1 and X2 and run a linear regression for a new data. The results are described on slide #9 and the overall conclusion is that linear regression fits the data better. The conclusion of the research is given on slide #10. Slide #11 is just a picture of S. Curry and his high achievements in 3 point shots.

Thus, 3 point shots and 2 point shots attempts are extremely important for evaluation of NBA players' performance.

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