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The Clock is Ticking: Effects of Shot-Clock Reset Rules Changes on EuroLeague Basketball Performance

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INTRODUCTION:

Rules in sport ensure players compete in fair conditions. In basketball, the shot clock reset rules limit the time during which the team that possesses the ball may attempt a field goal. Following recommendations from the International Federation of Basketball Association (FIBA), the EuroLeague adopted the shot clock reset rules changes in 2008 and 2014. This means the 14-second shot clock reset is implemented when certain defensive fouls are committed, or when certain offensive rebounds are collected. The shortening of the shot clock reset time has the potential to increase the number of ball possessions, reflected by the pace of the games. While the number of possessions is not recorded in the basketball box scores, an estimate is made possible from the box scores based on the equation proposed by (1). Thus, this study aims to examine the effects of the shot-clock reset rules changes on possession related team performances over the last 22 seasons for the EuroLeague.

METHODS:

Data included 494 sets of box scores from the EuroLeague regular season 2000-01 to 2021-22. Each set of box scores was the averaged box scores of a team over a season. The data was divided into three periods: before the rule changes in 2008, between 2008 and 2014, and after the rule changes in 2014. The Field-goal Attempts (FGA), Free-throw Attempts (FTA), Turnovers (TOV), and Offensive Rebounds (OREB) from the box scores were used to calculate the number of ball possessions (POSS) in a game, and were also analyzed individually. One-way ANOVA was used to examine the effect of rule changes on the possession related variables.

RESULTS:

FTA and TOV were reduced significantly over the 3 periods, ($p < .001$). There was also a significant effect of the rule changes on FGA and OREB, and the post-hoc paired comparisons showed that a significant increase was only observed after the second change of the shot clock reset rule ($p < .01$). There was no significant effect of rule changes on POSS.

CONCLUSION:

The overall number of possessions in a game did not change significantly over the two changes of the shot clock reset rules. The pace of the EuroLeague games was not affected by these rule changes. The effect of the rule changes mainly influenced the specific performance that contributed to the overall number of possessions. The reduction of FTA may have been the balance effect from the encouraged non-shooting defensive fouls as a result of the reduction of the shot clock reset time. Increased pressure from the defense, as well as the reduced shot clock reset time after offensive rebound, could have both contributed to the increase of FGA and OREB. The reduced TOV, although without direct evidence, we deduce could be the result of reduced deploy time.

Reference:

1) Kubatko, J, Oliver, D, Pelton, K, Rosenbaum, DT (2007). J quant anal sport.

Topic: Statistics and Analyses

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