

A Timeout is a Timeout? Effects of a Rule Change in the National Hockey League (NHL)

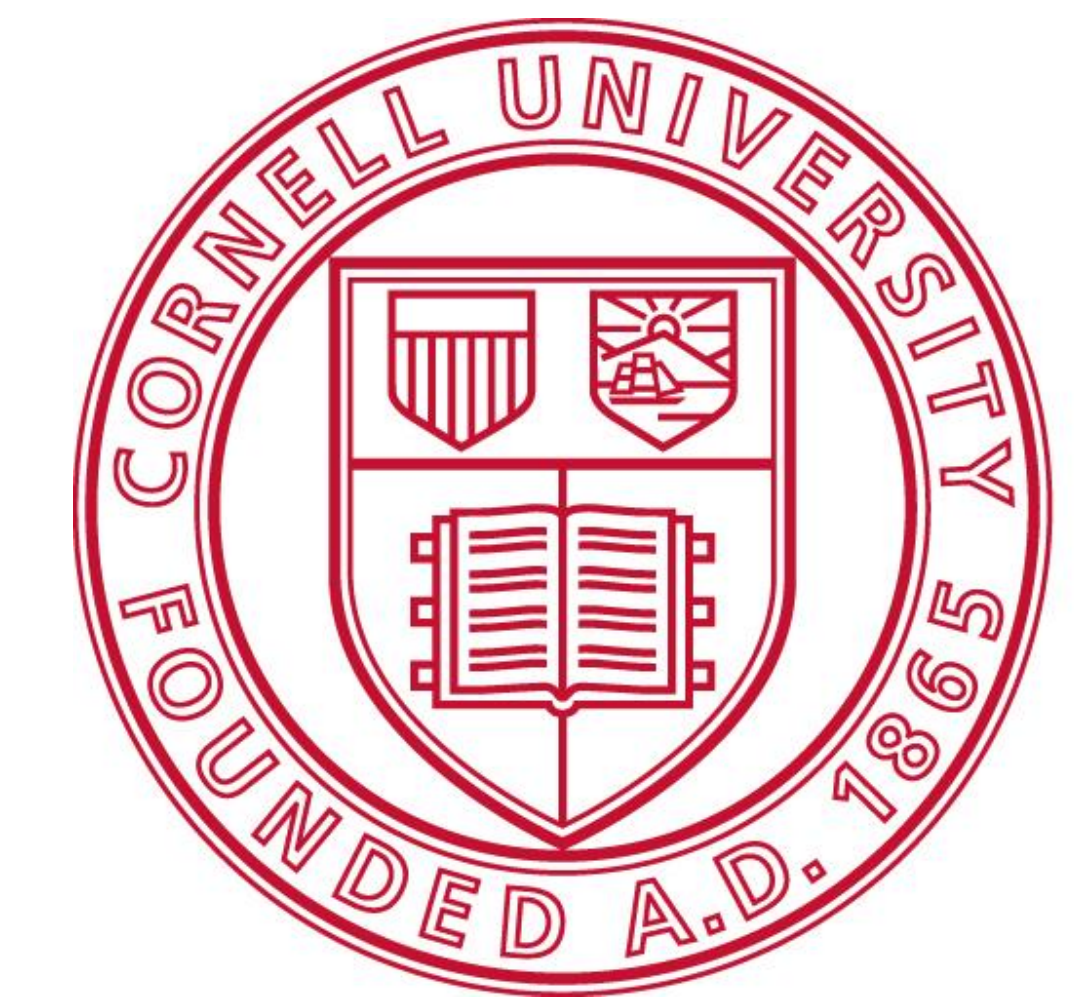
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Introduction

Timeouts are commonly enshrined in the rules of many sports as a way for players to gain a break in play and coaches to seek some kind of influence on the game.

As a currency with value, then, it is sensible that leagues such as the NHL and the National Football League (NFL) would offer teams a trade whereby they can challenge a referee's call in certain key circumstances with the downside risk that they lose a timeout if their challenge is not successful (i.e., the call is not overturned via video-review).

The NHL's adoption of this trade-off – known as the Coach's Challenge – starting with the 2015-16 season offers an opportunity to examine how the regulatory change influences decisions with respect to timeouts.

Specifically, while timeouts served traditional timeout functions prior to the 2015-16 season, an analysis of play-by-play data before and after the rule change allows us to see whether timeouts were utilized differently due to the rule change.

| | 2013-2015 Regular Season N=2460 | 2015-2017 Regular Season N=2460 | 2013-2015 Playoffs N=187 | 2015-2017 Playoffs N=178 |
|--------------------------------------|---------------------------------------|---------------------------------------|--------------------------------|--------------------------------|
| % of games w/ Zero timeouts | 35.04 (862) | 46.14 (1135) | 33.16 (62) | 33.14 (59) |
| % of games w/ 1 timeouts | 45.93 (1131) | 42.80 (1053) | 49.73 (88) | 47.19 (84) |
| % of games w/ 2 timeouts | 18.90 (465) | 11.06 (272) | 17.11 (37) | 19.66 (35) |
| Time within Game for Timeout 1 | 2874 | 3036 | 2909 | 3170 |
| Time within Game for Timeout 2 | 3425 | 3433 | 3392 | 3440 |

Methods

Play-by-play data with timeout information using a modified version of the nhlscrapp package (Thomas & Ventura, 2013) was pooled for the two years before and the two years after the Coach's Challenge was adopted.

Abstract

Starting with the 2015-16 National Hockey League (NHL) season, coaches have been able to risk their one timeout allocated per game to challenge goals if they contended the other team either interfered with the goalie or were offside en route to the goal.

In order to examine the impact of this rule change, we analyzed play-by-play records for the two seasons before and the two seasons after the rule change. We find that when timeouts can be used by coaches to challenge a scoring play, there are (1) significantly fewer timeouts called and (2) those timeouts that are used tend to be called later in games. In addition, we find that (3) the odds of a timeout being called immediately after an opponent scores have approximately doubled since the adoption of the rule change, presumably because it is the main window of time when a timeout can now be put on the line to challenge a goal. Our study contributes to a better understanding of the effects of rule changes in sports as well as why coaches use timeouts.

Results

Our Table reports the main descriptive statistics whereby it is clear – when focusing on the first two columns (for regular season play) – that

1. there are substantially more games after the rule change with zero timeouts (going from 35% to 46%);
2. there is a corresponding decline in the percentage of games with either one or two timeouts after the rule change; and,
3. the time-within-game when a timeout is first called has gotten later (from 2874 seconds into the game to 3036 seconds).

In addition to the differences being visibly different as means, the differences are also statistically significant.

Discussion

While the intended consequence of the NHL's rule change was to provide teams with a tool to help "get the call right," our findings show evidence of unintended consequences whereby fewer timeouts are called – and, among those timeouts being called, they tend to be later in the game.

It is outside of the scope of our study to examine whether this change in game-level behavior has increased the risk of player injury; however, that concern was raised before the rule's implementation. Brooks (2015), for example, anticipated that coaches would be less likely to call timeouts after an "icing" call to provide a break for players – and our findings suggest that such a trend has occurred.

Interestingly, the NHL has modified the Coach's Challenge for the upcoming 2017-18 season whereby timeouts will still be valuable in relation to challenging goaltender interference; however, an offside challenge that is not successful will now result in a two-minute penalty (and have no connection with timeouts) (e.g., Boruk, 2017).

References

Boruk, J. (2017). Rating 5 changes the NHL made to its rulebook. <http://www.csnphilly.com/philadelphia-flyers/rating-5-changes-nhl-made-its-rulebook>

Brooks, L. (2015). Replay Rule Presents Timeout Challenge. *The New York Post*, October 11.

Thomas, AC & Ventura, S (2013) nhlscrapp

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