Understanding Pitcher Performance after Pitch Clock Implementation

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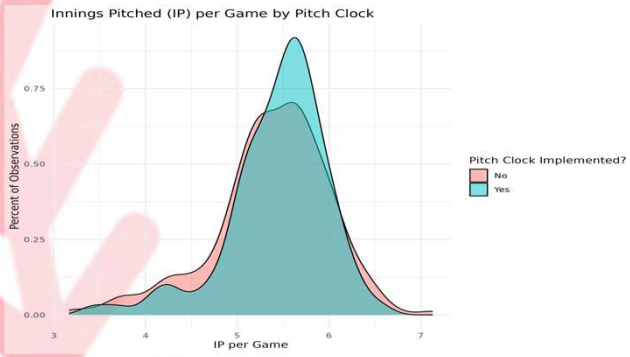
Introduction

- In 2023 Major League Baseball Implemented a Pitch Clock
- Pitchers now have:
  - 30 seconds between batters
  - 18 Seconds when runners are on base
  - 15 second when the bases are empty

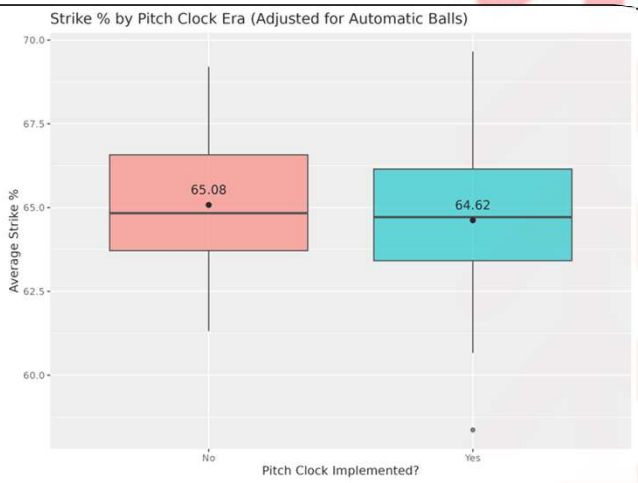
Dataset

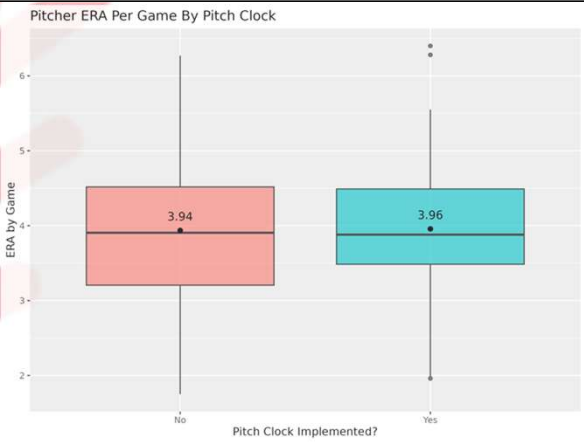
- Major League Baseball implemented Statcast.
  - Statcast is in-depth collection of data from each baseball game
- Our dataset contains starting pitcher data from 2021 – 2024



- The spread of average innings pitched per game is tightening around 5 $^{2}/_{3}$ innings per game.
- Pitchers now all have to work at a similar tempo, so their arms tire at a more similar rate

- There is a slight decrease in percentage of pitches thrown as strikes.
- Variability in strike percentage increased after the pitch clock was introduced—pitchers had more spread in how often they threw strikes.





- The spread tightens to an average ERA of 4 per game, indicating that the variability of ERA per game lessens with the implementation of the pitch clock

Conclusion

- Performance variability has tightened, with ERA staying roughly the same but showing a smaller spread (IQR) post-implementation.
- Strike percentage trends shifted, showing a slight decrease overall and greater variation between pitchers, highlighting differences in adaptation to the new rhythm.
- The pitch clock standardized game tempo, requiring all pitchers to work at a consistent pace regardless of game situation.
- Pitcher workloads have become more uniform, with most starters averaging around 5 ⅔ innings per game.