

Sabermetrics

WILL SANDERS

Sabermetrics

- ▶ Bill James coined Sabermetrics in 1980
- ▶ Mathematical and statistical analysis of baseball records
- ▶ 2003 book, Moneyball, brought Sabermetrics to mainstream

Statcast

- ▶ Can now view statistics like HR Distance, Exit Velocity, Average Exit Velocity, Fastest Pitches, Average Pitch Velocity

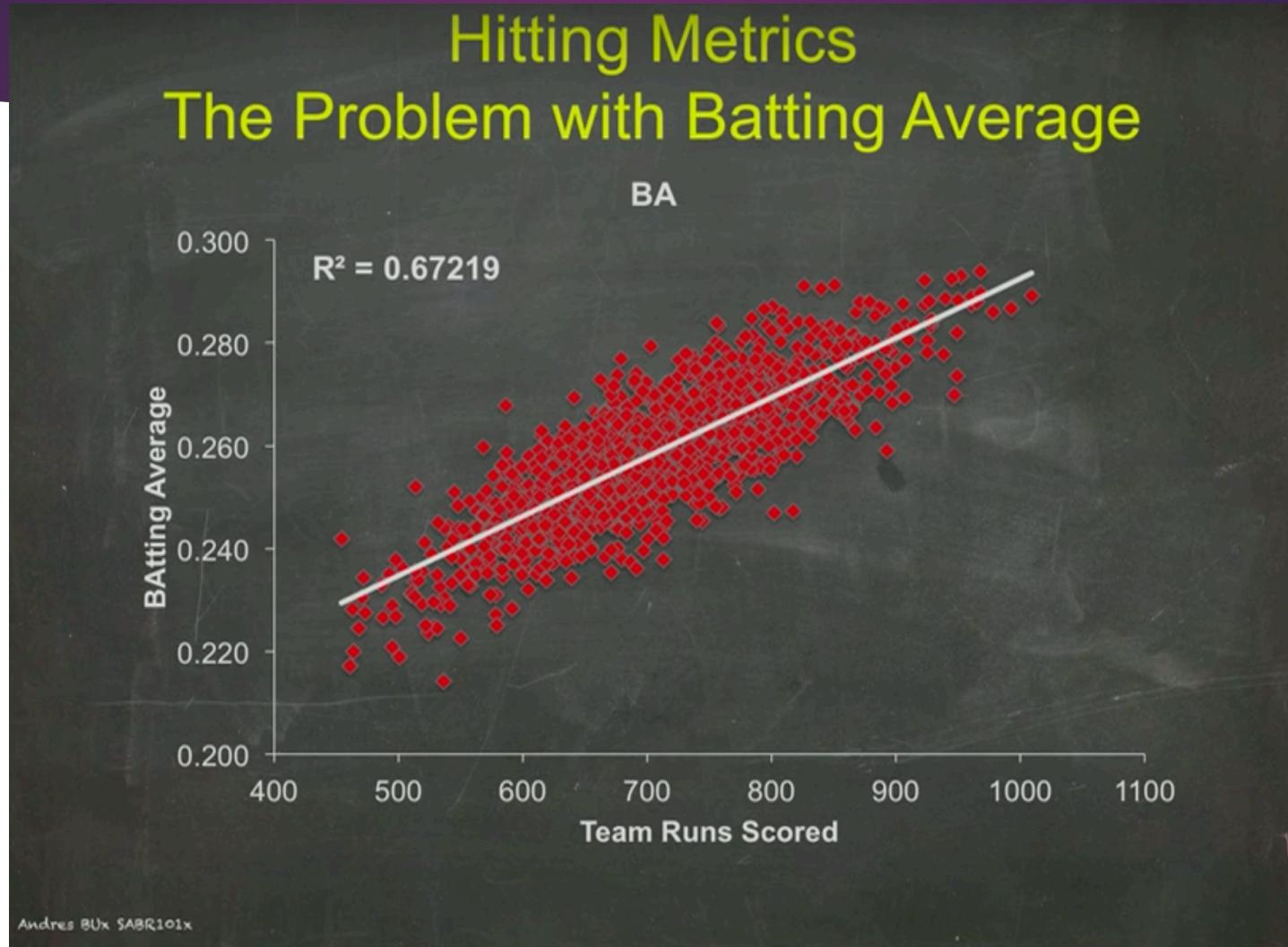
Pitcher	Pitch Speed (mph) ▲	Pitch Desc	Perceived Speed (mph)	Spin Rate (rpm)	Extension (feet)	Result	Batter
Chapman, Aroldis	105.1	Four-seam FB	105.5	2,617	6.8	Ball	Hardy, J.J.
Chapman, Aroldis	104.9	Four-seam FB	105.8	-	6.8	Field Out	Flaherty, Ryan
Chapman, Aroldis	104.9	Four-seam FB	104.9	-	6.9	Foul	Belt, Brandon
Chapman, Aroldis	104.9	Four-seam FB	105.5	-	6.5	Foul	Realmuto, J.T.
Chapman, Aroldis	104.6	Four-seam FB	105.3	2,500	7.0	Ball	Williamson, Mac
Chapman, Aroldis	104.6	Four-seam FB	104.3	-	6.7	Ball	Belt, Brandon
Chapman, Aroldis	104.6	Four-seam FB	105.9	-	7.1	Foul	Phillips, Brandon

WAR – Wins Above Replacement

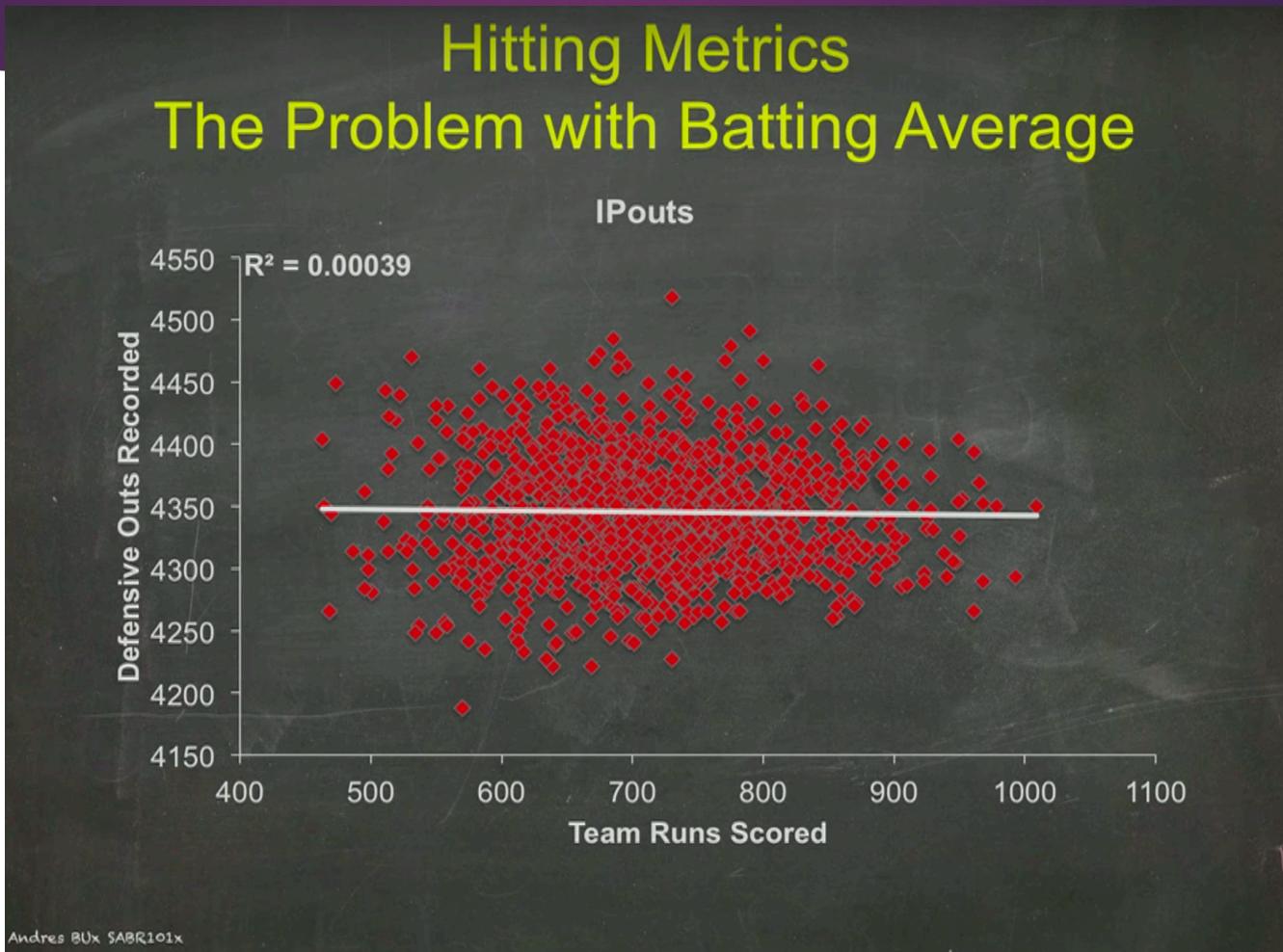
- ▶ How much better a player is than a player that would typically be available to replace that player
- ▶ Outcome of runs / game and the talent of the player, Runs lead to Wins
- ▶ How many wins is a player worth?
- ▶ Runs Above Average
 - ▶ Batting
 - ▶ Fielding
 - ▶ Baserunning

WAR = (Batting Runs + Base Running Runs + Fielding Runs + Positional Adjustment + League Adjustment + Replacement Runs) / (Runs Per Win)

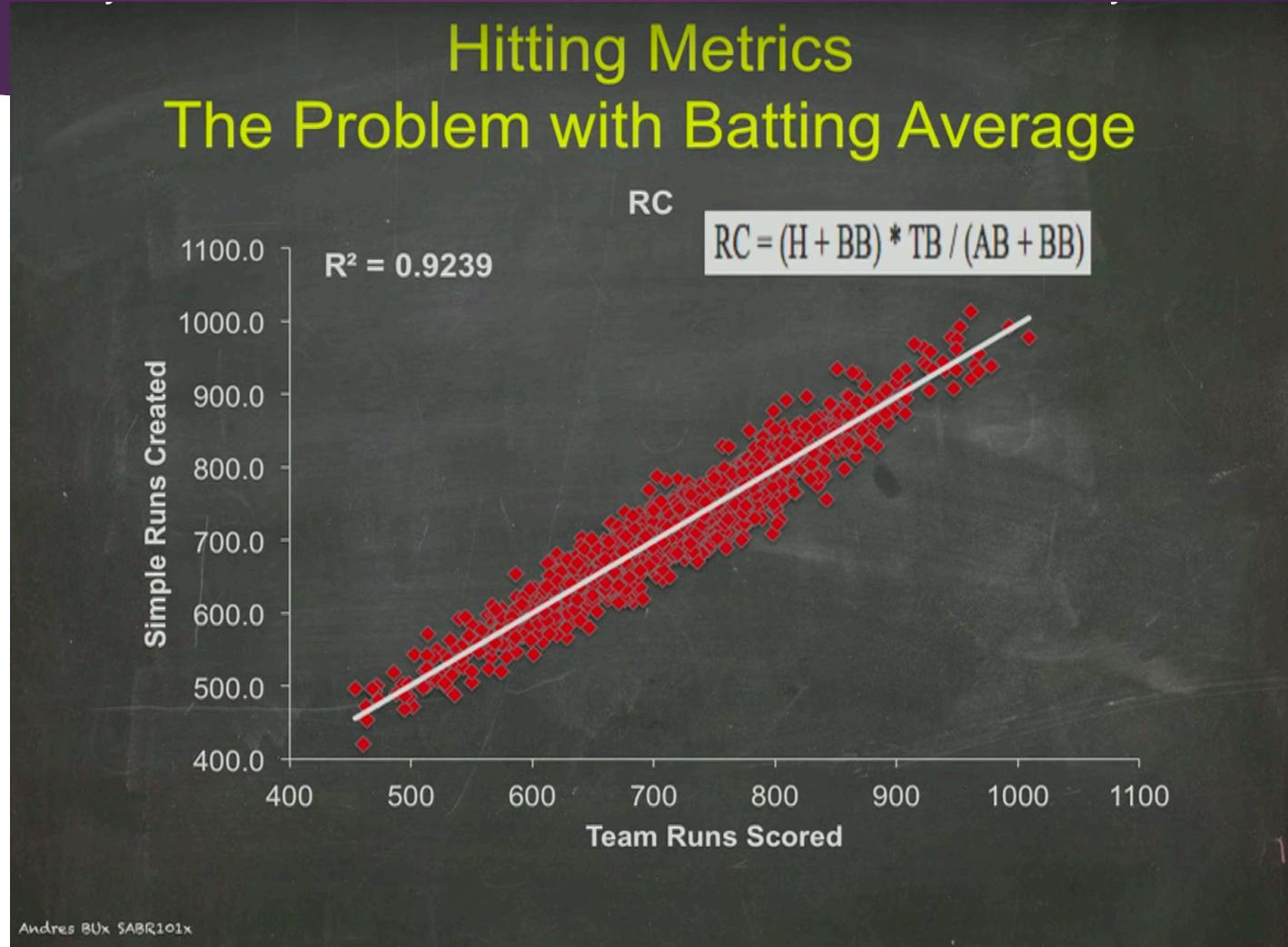
Correlation



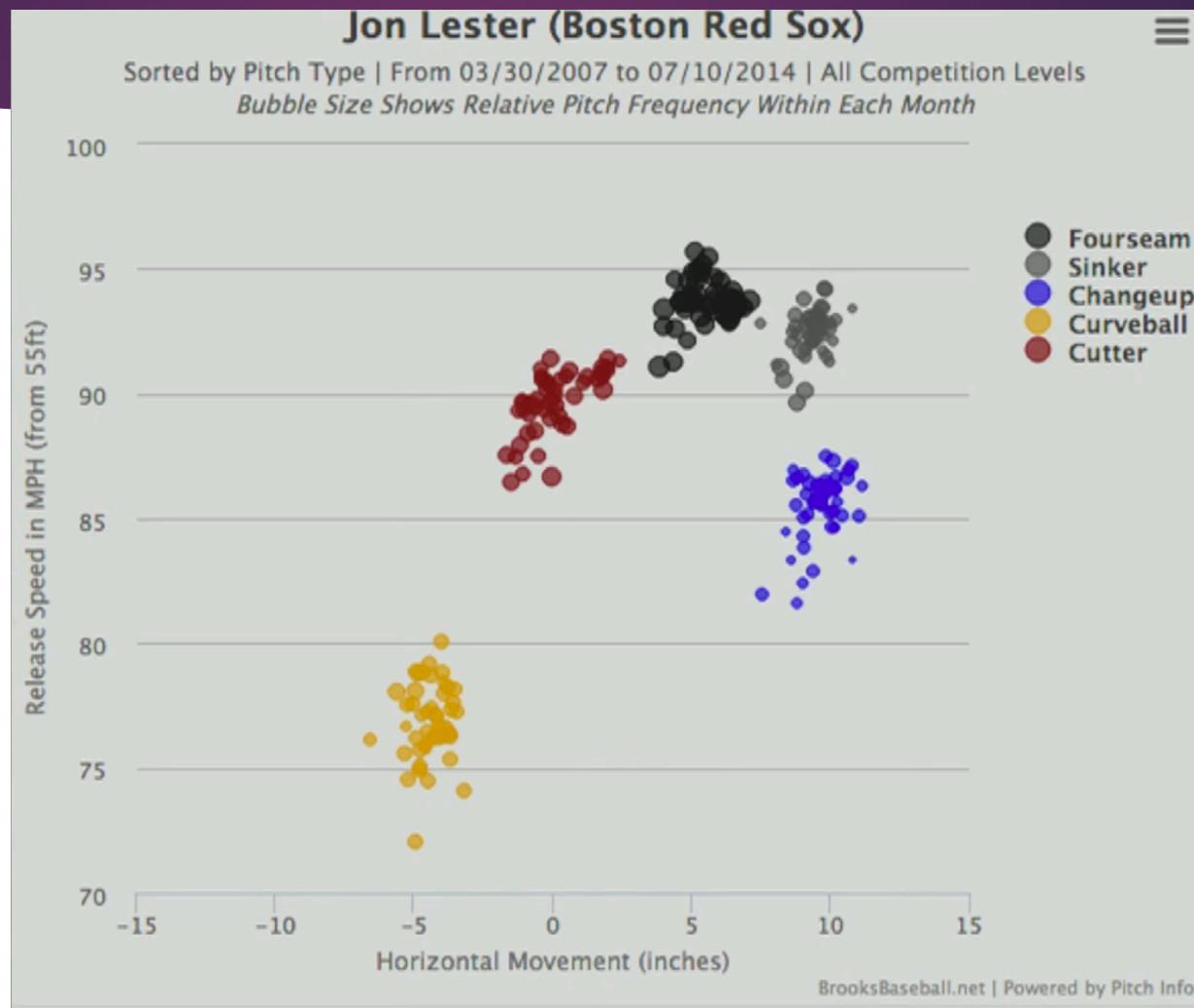
Low Correlations



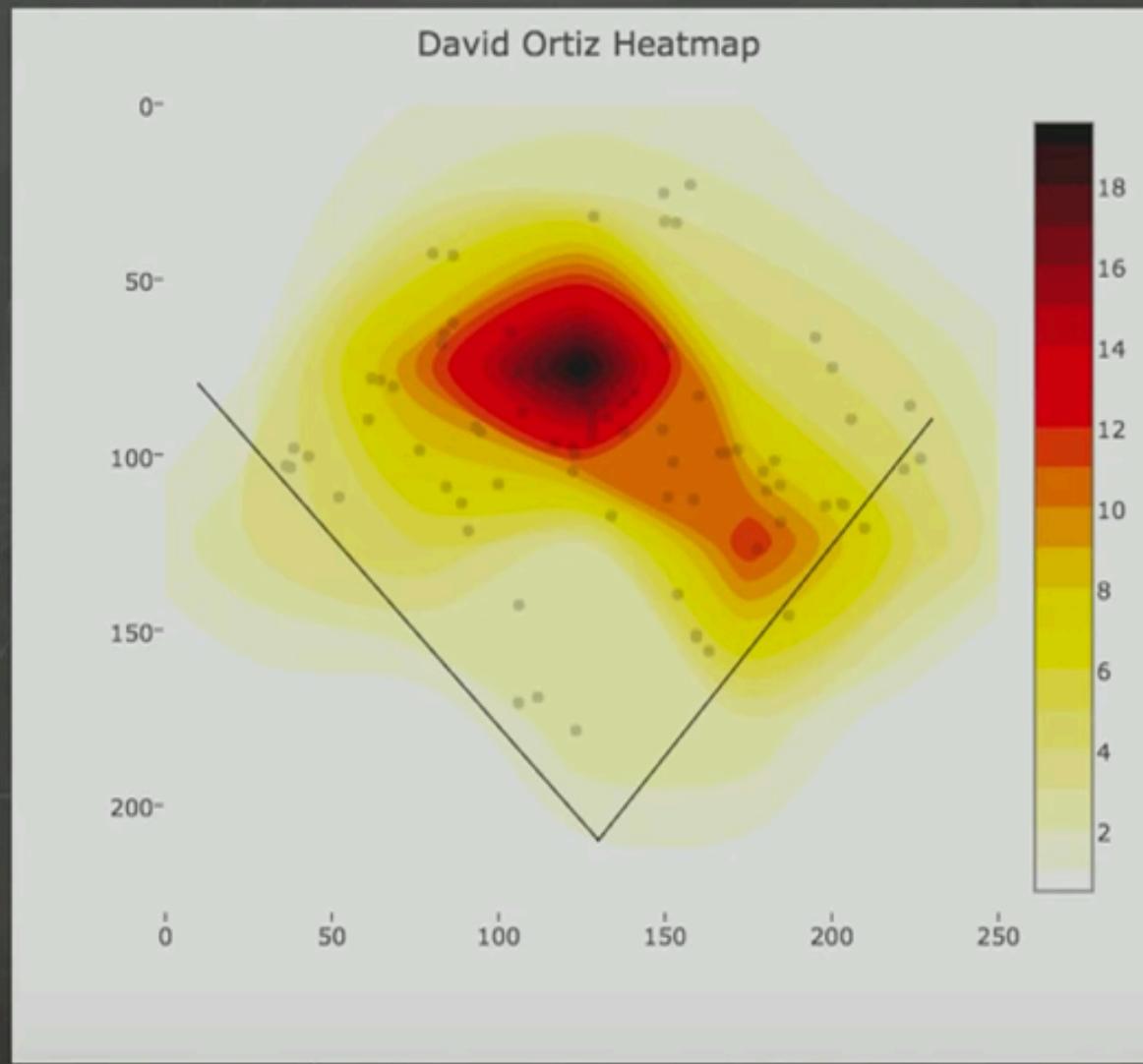
High Correlations



Pitching Data



David Ortiz 2015

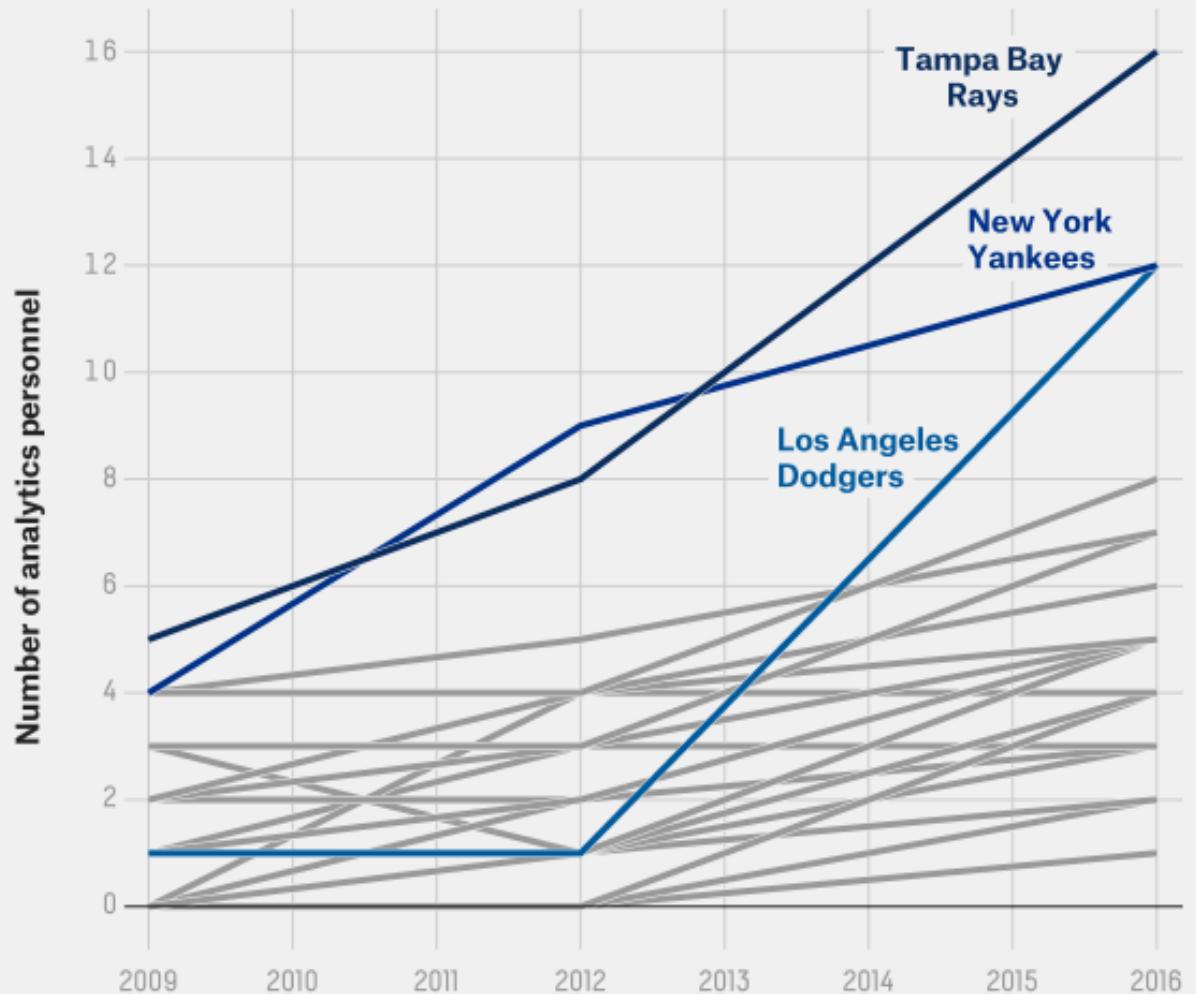


Staffs are growing

- ▶ Compared to team payroll
- ▶ Tampa Bay Rays: \$71 M
- ▶ New York Yankees: \$227M
- ▶ Los Angeles Dodgers: \$279M

MLB analytics staffs are growing

Number of analytics personnel employed by team



Resources

- ▶ <http://m.mlb.com/statcast/leaderboard#pitch-velo>
- ▶ <https://www.youtube.com/watch?v=wu2twZdrM-E> - Andy Andres Sabermetrics 101