

1145-B5-2511 **Robert Franzosa*** (franzosa@maine.edu). *Using baseball simulation software to investigate $d(\text{wins})/dx$ for various statistics x .*

The Baseball Simulator is a baseball simulation program developed by the author that replays Major League Baseball (MLB) games and seasons using team (rather than individual player) statistics. We introduce the program, demonstrating its accuracy recreating past MLB seasons. Then we show how—by modifying statistics—we can answer questions like the following: With all other statistics unchanged, how many more wins could we expect a team to attain if they drew one extra walk per game, or if they hit one more double every three games, or if they hit one more home run per week, etc? Furthermore, we present results from investigating some of these questions. (Received September 25, 2018)