

## MITOCW | MIT15\_071S17\_Session\_2.3.11\_300k

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In addition to what we have seen already, Moneyball also discusses several other things, for example, how it is easier to predict professional success of college players than high school players, that stealing bases, sacrifice bunting, and sacrifice flyers are overrated, and pitching statistics do not accurately measure pitcher ability.

Pitchers only control strikeouts, home runs, and walks.

Where was baseball in 2002?

The graph on the left is what we have seen in the beginning of this lecture.

So before Moneyball techniques, analytic techniques, became more well-known, the A's were clearly an outlier.

Recall that the A's are here, compared to the Red Sox and the Yankees.

Just observe that the A's had 20 more wins than teams with equivalent payrolls.

And they had as many wins as teams like the Red Sox that have more than double the payroll.

Where is baseball now?

The A's, in the green dot here-- and for reference, this is the Red Sox and the Yankees-- are still an efficient team.

But they only have about 10 more wins than teams with equivalent payrolls.

So specifically, there are fewer inefficiencies, because many of them were discovered after the book Moneyball was published.

In fact, the use of analytics in general in baseball has now a name called sabermetrics.

Of course, there has been a lot of work done in the field.

Baseball Prospectus is a website devoted to the analytics of baseball.

New concepts were introduced-- value of a replacement player, VORP, and defense independent between statistics, DIPS.

There's another book that has been written.

The title of the book is The Extra 2%: How Wall Street Strategies Took a Major League Baseball Team from Worst to First, dictating the story of the Tampa Bay Rays.

And finally, analytics have been used in many game-time decisions in baseball, for example, the batting order,

changing pitchers, et cetera.

So what is happening with other baseball teams and other sports?

So nowadays, every major league baseball team has a statistics/analytics group.

In fact, the Red Sox implemented quantitative ideas and won the World Series for the first time in 2004, after 86 years.

They in fact tried to hire Billy Bean in 2003, who accepted for one day, but then he changed his mind and went back to the Oakland A's.

Analytics are also used in other sports, although it is believed that more teams use statistical analysis than is publicly known.

And finally, what is the edge of using analytics?

Models allow managers to more accurately value players and minimize risk.

This is a direct quote from Moneyball.

"In human behavior, there was always uncertainty and risk.

The goal of the Oakland front office was simply to minimize the risk.

Their solution wasn't perfect.

It was just better than rendering decisions by gut feeling." And a final remark that, as you have observed throughout the lecture, that the model we introduced are reasonably simple.

They involved regression ideas, and they did not involve many variables that are not that sophisticated.

Yet they led to significant success of the Oakland A's and more generally, for teams that use the power of sports analytics.