



June 24, 2006



Bryan Christie

## DOW JONES REPRINTS

Ⓜ This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers, use the Order Reprints tool at the bottom of any article or visit:

[www.djreprints.com](http://www.djreprints.com).

• [See a sample reprint in PDF format.](#)

• [Order a reprint of this article now.](#)

### Baseball Confronts

#### The Luck Factor

**Is that team good -- or just lucky? Using research on randomness that's shaking up other fields, number-crunchers say they can answer the question.**

By **RUSSELL ADAMS**

June 24, 2006

Melky Cabrera, a highly touted 21-year-old outfielder for the New York Yankees, started off the season well, batting over .300 through early June. Now he is in a slump, hitting .189 in his last 10 games. For fans and the Yankees, the question is simple: How much of the rookie's impressive start was dumb luck?

A lot of it, according to some baseball number-crunchers. Using new statistical methods, they calculated that the equivalent of one in four of Mr. Cabrera's early-season hits resulted from chance, not skill. Subtracting out good luck, his early season batting average should have been .231 -- nearly 80 points lower than what showed up in the box scores.

Even in the numbers-obsessed world of sports, baseball has stood out for its efforts to track all aspects of the game. Now its fanatic record-keepers are on a quest to quantify something seemingly beyond measurement: the ethereal quality of luck. They're using insights into randomness that are shaking up other fields, from cancer research to weapons testing -- and that may even help you pick a good mutual fund.



## THE LUCK FACTOR

Is your favorite team lucky or unlucky? [See the team standings](#) if luck were subtracted out, and see how [pitchers](#) and [batters](#) ranked. Plus, some areas where [chance may be a key factor](#)<sup>1</sup>.

By tallying minute details about every hit ball, statistics gurus say they can compute how much of a player's accomplishments stem from random factors. The results could affect which free agents should get top dollar after a great season and suggest which teams are likely to hold up in the pennant race.

In this alternate universe, where luck is taken out of the picture, the first-place Boston Red Sox would trail both the Yankees and the Toronto

Blue Jays. Fans of the Cleveland Indians, now stuck in fourth place in their division, would still have playoff hopes. And the Seattle Mariners' Ichiro Suzuki, one of the American League's leading hitters, would be struggling with a below-.300 average.

Most teams are tight-lipped about their use of luck-related statistics, but baseball executives acknowledge that it's becoming part of the decision-making process. Teams including the Red Sox, Indians and Oakland Athletics say they seek to weed out random factors in assessing players.

For the San Diego Padres, currently leading the National League West, measuring randomness will help guide critical decisions as baseball's July 31 trade deadline approaches. Among other things, the Padres use a method to calculate a statistic known as EOPS, which is a combination of a player's expected on-base percentage (the percentage of his at-bats he gets on base safely other than through errors or a fielder's choice) and his slugging percentage (a measure of batting average that gives more weight to extra base hits).

Before the Padres consider spending to beef up their lineup, they want to understand whether their division-leading season is more than just a fluke. "It's important to know: Are we for real or are we lucky?" says Kevin Towers, the team's general manager.

But for all the math and statistics involved, many of these calculations are more art than science. Each approach to factoring out luck comes with its own assumptions. Washington Nationals outfielder Jose Guillen is batting .220, well below his career average of .273. Has the 30-year-old lost a step after a decade in the big leagues? Or, is Mr. Guillen simply unlucky? Some luck researchers say random factors have hampered Mr. Guillen and his batting average should be more in line with his career numbers this year.

Skeptics say this approach places too much emphasis on the role of chance -- and that not everything in baseball can be reduced to numbers. Indeed, it only takes a

few innings of watching a star like the  Louis Cardinals's Albert Pujols to appreciate the difference between a great player and one who's mediocre.

## PODCAST

[Statistical analysis has always played](#)<sup>2</sup> a key role in sports, especially baseball. Wall Street Journal reporter Russell Adams takes a look at whether luck is a quantifiable statistic.

[Listen Now](#)<sup>3</sup> | [iTunes Archive](#)<sup>4</sup> | [RSS Feed](#)<sup>5</sup> | [More Podcasts](#)<sup>6</sup>

The luck researchers agree that a player's skills are critical -- and say their numbers can help highlight whose contributions reflect skill and whose are more a product of chance. And they acknowledge that their numbers don't tell the whole story. Barry Bonds shows up in some calculations as consistently unlucky, but the researchers say the numbers mask extreme and unusual shifts by the defense when he is at bat. Those defensive moves rob Mr. Bonds of some hits -- and obscure his innate skills.

Scott Boras, an agent who has secured big contracts for Alex Rodriguez and other players, is known for using statistics-packed binders to persuade teams on the value of his clients. Mr. Boras says he has sometimes sought to show that a pitcher suffered from bad luck.

But he thinks data on batters are still too subjective to persuade a team. "You're not going to walk into a room if you're doing an arbitration case and subjectively say, 'This guy hit the ball hard but it just happened to go at people,' " he says.

Other sports are also exploring the role of randomness. In football, number-crunchers are challenging the notion that some teams are more skilled than others at recovering fumbles. Research in soccer suggests that whether a player decides to direct his penalty kick to the right, left or center of the goal, the percentage of actual goals is largely the same.

But baseball is at the forefront. Experts from statisticians to oddsmakers say chance plays an unusually big part in the game, partly because play is spread out over such a large area. The game's complexity is also relevant: The scoring value of a base hit, for instance, depends largely on factors outside the hitter's control -- namely the ability of the previous batters to get on base.

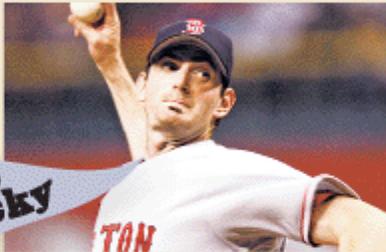


**ICHIRO SUZUKI**, Outfielder  
*Seattle Mariners*

**Real-life batting average:** .355

**If he weren't so lucky:** .286

*According to ProTrade's stats, Ichiro is one of the luckier players in the league. But there's a footnote to that: Because of his great speed to first, he is the rare player that has the skill to create his own luck.*



**MATT CLEMENT**, Pitcher  
*Boston Red Sox*

**Real-life ERA:** 6.61

**If he weren't so unlucky:** 4.04

*In a loss last month to the Yankees, three of the hits Mr. Clement allowed, including the game-winner, should have been outs if his defense had been up to snuff. None of the plays was classified as an error.*



**TREVOR HOFFMAN**, Pitcher  
*San Diego Padres*

**Real-life ERA:** 1.38

**If he weren't so lucky:** .284

*Mr. Hoffman, one of the game's top closers, has benefited from stellar defense all year.*



For J.C. Bradbury, economics professor at the University of the South in Sewanee, Tenn., the desire to understand the role of chance in baseball started with a slump. In 2004, Atlanta Braves star Chipper Jones's hitting numbers were suffering. Even though Mr. Jones appeared to be hitting the ball well, he wasn't getting on base or hitting for power at his normal rate.

So Prof. Bradbury looked for statistics that would isolate the hitter's role in each at-bat -- and exclude the performance of the pitcher and fielders. The starting point was a mound of data on the characteristics of each ball put into play by Mr. Jones. Based on historical data on balls hit in similar ways, Prof. Bradbury estimated what should have happened, statistically speaking, in Mr. Jones's at bats.

In this approach, a ball hit on a trajectory that would typically send it past the fielder for a base hit counted as a hit for Mr. Jones regardless of whether he was called out in real life. Turns out, there were many such instances for Mr. Jones. Prof. Bradbury concluded the Braves star was suffering from a run of bad luck -- an indication he was likely to perform significantly better the next season.

Indeed, in 2005, Mr. Jones's batting average bounced back to .296 from .248. "I was quite surprised at how well it predicted player performance," says Prof. Bradbury.

Statistics, of course, have long been a big part of baseball, but the last decade has seen an effort to drill down much deeper. Some of this has been driven by the rise of fantasy-baseball leagues, while Major League teams also have embraced statistics more aggressively. Oakland and its general manager, Billy Beane, helped pioneer efforts to look more closely at the value of individual

Copyright 2006 Dow Jones & Company, Inc. All Rights Reserved

This copy is for your personal, non-commercial use only. Distribution and use of this material are governed by our [Subscriber Agreement](#) and by copyright law. For non-personal use or to order multiple copies, please contact Dow Jones Reprints at 1-800-843-0008 or visit [www.djreprints.com](http://www.djreprints.com)