Baseball: Thinking Outside the Batter's Box

5

"How to hit home runs: I swing as hard as I can, and I try to swing right through the ball . . . The harder you grip the bat, the more you can swing it through the ball, and the farther the ball will go. I swing big, with everything I've got. I hit big or I miss big. I like to live as big as I can."
—Babe Ruth

"What is striking is that the leading thinkers across varied fields—including horse betting, casino gambling, and investing—all emphasize the same point. We call it the Babe Ruth effect: even though Ruth struck out a lot, he was one of baseball's greatest hitters."
—Michael J. Mauboussin and Kristen Bartholdson[1]

The concepts that make up Trend Following should be experienced to be understood completely, a tough prerequisite. We found it helpful to compare Trend Following to baseball, a sport all of us have experienced either passively or actively to one degree or another. Baseball has always been a passion of mine. My playing career went from Little League into college, and I've watched more baseball than I care to admit. I've always known that baseball and Trend Following have much in common, but it wasn't until the past few years that sportswriters and financial writers started acknowledging their similarities. Not surprisingly, this was about the time that John W. Henry bought the Boston Red Sox. Henry makes the connection in Michael Lewis' *Moneyball*:

The point about Dykstra, at least to Billy, was clear: Dykstra didn't let his mind mess him up. Only a psychological freak could approach a 100-m.p.h. fastball aimed not all that far from his head with total confidence. "Lenny was so perfectly designed, emotionally, to play the game of baseball," Beane said. "He was able to instantly forget any failure and draw strength from every success. He had no concept of failure. I was the opposite."

Moneyball[2]

"People in both fields [stock market and baseball] operate with beliefs and biases. To the extent that you can eliminate both and replace them with data, you gain a clear advantage. Many people think they are smarter than others in the stock market and that the market itself has no intrinsic intelligence as if it's inert. Many people think they are smarter than others in baseball and that the game on the field is simply what they think through their set of images/beliefs. Actual data from the market means more than individual perception/belief. The same is true in baseball."[3]

Are you smarter than the market? If you could find the data that would prove otherwise but still enable you to win, would you be able to set aside your ego and play the game by a set of rules? If so, you might be on the same path as John W. Henry.

The general complacency of baseball people—even those of undoubted intelligence—toward mathematical examination of what they regard properly and strictly as their own dish of tea is not too astonishing. I would be willing to go as far as pretending to understand why none of four competent and successful executives of second-division ball clubs were most reluctant to employ probabalistic methods of any description . . . but they did not even want to hear about them!

Earnshaw Cook[6]

The Home Run

Ed Seykota, Bill Dunn, and John W. Henry swing for the fence. They hit home runs in their trading performance. They are the Babe Ruths of Trend Following. If any of them coached a baseball team, they would approach it like the former manager of the Baltimore Orioles:

"Earl Weaver designed his offenses to maximize the chance of a three-run homer. He didn't bunt, and he had a special taste for guys who got on base and guys who hit home runs."[4]

Ed Seykota uses a clever baseball analogy to explain his view of absolute returns (and home runs): "When you're up to bat, it doesn't pay to hedge your swing . . . True for stocks & true for [Barry] Bonds."[5]

If you are going to play, you might as well play hard. Isn't that Seykota's insight? Swing hard and if you miss, so be it.

Life is too dynamic to remain static.

John W. Henry[7]

George Herman Ruth, hero of New York, hero of baseball, and arguably one of the greatest sports legends of all time, will always be known for his hard swings and home runs. But he had another habit that isn't talked about much: striking out. In fact, with a lifetime batting average of .342, the Babe spent almost two-thirds of his time trudging back to the dugout. From a pure numbers perspective, he saw more failure at the plate than success. But when he got a piece of one, well, it was enough to give any pitcher nightmares.

There's a reason why "Ruthian" is still a well-known adjective in sportswriting, conveying the awe and power of a mighty blast that sails far over the fence, up and away into the very highest reaches of stands. Ruth understood full well that the hits help a whole lot more than the strikeouts hurt. He summarized his philosophy in a nutshell: "Every strike brings me closer to the next home run."

Richard Driehaus, a hugely successful trader who has made millions trading trends, hits the nail on the head:

"A third paradigm [in the financial press] is don't try to hit home runs—you make the most money by hitting a lot of singles. I couldn't disagree more. I believe you can make the most money hitting home runs. But, you also need a discipline to avoid striking out. That is my sell discipline. I try to cut my losses and let my winners run."[8]

But swinging for the fence is often characterized as reckless by the uninitiated:

"One anonymous competitor said Henry is our industry's Dave Kingman, referring to the ex-ballplayer famous for either hitting home runs or striking out. Henry says such talk is unfair. 'I've been doing this for 20 years, and every time there's a change in the market, they say I should change my ways. But every time there's a period when we don't do well, it's followed by one in which we do extraordinarily well.'"[9]

An anonymous competitor thinks Henry is Dave Kingman? John W. Henry's performance is much closer to Babe Ruth's than Dave Kingman's. Let's examine the actual hitting statistics of Ruth and Kingman (Chart 5.1):

CHART 5.1: Babe Ruth v. Dave Kingman [30]

	Babe Ruth:	Dave Kingman:
At Bats	8399	6677
Hits	2873	1575
Runs	2174	901
Home Runs	714	442
Batting Average	.342	.236
Slugging	.690	.478

Even before he trained with commodities legend Richard Dennis, Jim DiMaria had learned an important trading principle in the less lucrative arena of baseball statistics: The players who score the most runs are home run hitters, not those with consistent batting records. "It's the same with trading," the 28-year-old DiMaria says. "Consistency is something to strive for, but it's not always optimal. Trading is a waiting game. You sit and wait and make a lot of money all at once. The profits tend to come in bunches. The secret is to go sideways between the home runs, not lose too much between them."[10]

And if you step back from American society and ask "What kind of people are getting rich these days?" the answer is increasingly "People like John W. Henry." That is, people on the nerdly end of the spectrum, who have a comfort with both statistical analysis and decision-making in an uncertain environment. And these people, increasingly, will demand that their teams be run along rational lines.

Michael Lewis[11]

When John W. Henry purchased the Boston Red Sox, he understood that a combination of good management and hard science was the most efficient way to run a major league baseball team. As a trend follower Henry had been exploiting market inefficiencies for decades.

Michael Lewis[12]

Compare the slugging percentages. There is no comparison. Kingman could not be considered a great run producer by any measure. On the other hand, Henry's performance numbers are top-flight production. Henry has a great slugging percentage.

People want it both ways. John W. Henry supposedly strikes out too much (we all know that's not relevant by now, right?), but he's made himself enough money to buy the Boston Red Sox for $700 million. Where do you think he got that money from? John W. Henry has said that he knows of numerous institutional investment managers, primarily in Europe, who manage billions of dollars for clients, who have spent more than 20 years watching him and waiting for him to fail.

The lesson for traders is this: If you have confidence in your method and yourself, then temporary setbacks don't matter, because you will come out ahead in the long run. So go ahead and commit. Go for the home run.

To further illustrate the point, consider a modern day example: the blue-collar Joe v. the entrepreneur. The blue-collar Joe is paid the same lump sum every two weeks like clockwork (with the occasional miniscule raise paced to keep up with inflation). In terms of winning percentage, blue collar is king: his ratio of hours worked to hours paid is one to one, a perfect 100 percent. He has a steady job and a steady life. Of course, the security he feels is something of an illusion—his paycheck comes at the whim of his local economy, his industry, and even the foreman of his plant. And the pay isn't exactly impressive. It gives him a solid, livable life, but not much more.

When I started writing I thought if I proved X was a stupid thing to do that people would stop doing X. I was wrong.

Bill James

In contrast, consider the entrepreneur. His paydays are wildly irregular. He frequently goes for months, sometimes years, without seeing tangible reward for his sweat and toil. His winning percentage is, in a word, pathetic. For every 10 big ideas he has, seven of them wind up in the circular file. Of the remaining three, two of those fizzle out within a year—another big chunk of time, money and effort down the drain. But we can't feel too sorry for the poor entrepreneur who spends so much time losing. He has a passion for life, he controls his own destiny, and his last idea paid off with a seven-figure check.

Moneyball and Billy Beane

Billy Beane is the General Manager of the Oakland A's baseball team. He does things differently than the stodgy old-line baseball managers. He makes his baseball decisions on the "numbers."

Billy Beane doesn't have a fancy stadium or a wealthy owner. In fact, this small-market team's payroll is one-third that of the New York Yankees. However, the Oakland A's are routinely among the best teams in major league baseball, having reached the playoffs four years in a row (2000–2003). What happened? Billy Beane became the Oakland A's general manager. In "The Buffett of Baseball," the old school perspective on what constitutes a winning baseball team (familiar truisms about talent, character, and chemistry) is compared with the new scientific approach based on numbers. This new approach is based on extensive scientific research into baseball statistics. It is often called sabermetrics, after SABR, the Society for American Baseball Research, and has proved almost all of the old truisms to be false. The genius behind sabermetrics was a mechanical engineer named Earnshaw Cook, who, in the early 1960s, compiled reams of data that overturned baseball's conventional wisdom. But when he presented the data to executives at a handful of struggling teams, they shooed him away. So Cook wrote a book called *Percentage Baseball,* based on statistics that were irrefutable.[13]

You know, there are a core of institutional investment managers, primarily in Europe, who manage billions of dollars for clients, who have waited for me to fail for more than twenty years. They have an inherent bias against the notion that data or mechanical formulas can lead to success over time in markets. They have personally watched my success now for more than twenty years. Yet, if anything, they are now no more convinced than they were twenty years ago that I am going to be successful in the future using data over analysis. I am not legendary (on Wall Street or off). Bill is, and I assume the inherent bias against him within baseball will increase now that he has taken sides.

John W. Henry[14]

The performance data of trend followers is likewise irrefutable. Beane-ball and Trend Following apply science (the precision of numbers) to what heretofore has been always layered in subjective opinion, myth, and feeling.

What are some examples of Billy Beane's "by the numbers" approach to baseball? "Beane uses actuarial analysis to figure out, say, the odds of a high-school pitcher's becoming a major leaguer. And, in drafting and acquiring talent, he relies on sabermetric truths. For instance, if your team draws a lot of walks and hits a lot of home runs while giving up few of each, it will win a lot of ballgames. So Beane has stocked his team with sluggers who take walks, and control pitchers who rarely give up home runs."[16]

Even while managing $1.1 billion using quantitative analysis, which he calls "quant," Henry knew that the same, dispassionate statistical investigation could be used to help shape a baseball team and its budget. "It is remarkably similar," "I just happened to apply 'quant' to an area that's extremely lucrative."[15]

Billy Beane says, "Get me the runs." In his world, he neither wants nor needs a team full of Lance Johnsons, who only slap singles and never hit home runs.

The nature of markets is to trend. The nature of life is to trend.

John W. Henry[18]

John W. Henry Enters the Game

Many trend followers started trading on their own with small accounts. They grew slowly as independents and were often renegades, unlike the more conventional traders on Wall Street who still "earn their spurs" at Goldman Sachs or Morgan Stanley. Their nature and their strategies are polar opposites of the traders who inhabit a Wall Street world built on commissions. Like Billy Beane's view of baseball players, trend followers realize that large amounts of cash do not guarantee wins. Strategy and smarts beats capital nine times out of ten.

Trend Following's connection with baseball and numbers picked up even more steam with John W. Henry's hiring of Bill James, the quintessential baseball "quant," or numbers guy, for over 20 years. Bill James, the consummate outsider, was brought on to enrich Henry's Red Sox club with his unique numbers-based view of baseball. James' views might be too harsh for the majority of professionals and fans in the baseball world. For example, he is excruciatingly blunt in his negative assessment of folks like Don Zimmer, the loveable-looking former bench coach for the Yankees:

Usually when making investments, it is implicit that investors believe they have some degree of knowledge about the future. So Wall Street has more fortune tellers than any other industry. I feel I've had an advantage over the years because I am clear about a couple of things: 1) it is part of the nature of life itself (and markets are simply manifestations of people's expectations) to trend, and 2) I will never have a complete or full understanding of anything. Therefore, all investment decisions should be based on what can be measured rather than what might be predicted or felt.

John W. Henry[19]

"[A]n assortment of half-wits, nincompoops, and Neanderthals like Don Drysdale and Don Zimmer who are not only allowed to pontificate on whatever strikes them, but are actually solicited and employed to do this."[17]

Unfortunately, Zimmer might just have added fuel to James' fire with his boneheaded attack on Pedro Martinez during the 2003 American League Championship Series with the Yankees. Zimmer may have, in fact, exhibited a hint of Neanderthal behavior. However, the bad feelings Bill James has about the establishment seem to be mutual:

"'A little fat guy with a beard who knows nothing about nothing,' is how Hall of Fame manager Sparky Anderson once described James, who's neither short nor fat."[20]

How unique is the Bill James perspective of baseball? Extremely:

"I keep thinking, however, about an e-mail that James sent me after I visited him in Kansas, in which he tried to explain the connection between his obsession with crime stories and baseball.

'I feel a need to be reminded, day in and day out, how easy it is for a fantasy to grab hold of your foot like a rope, and dangle your life upside down while brigands go through your pockets,' he wrote. 'The essential message of crime books is: Deal with the life you've got. Solve the problems you have, rather than fantasizing about a life without them.'"[21]

When James says solve the problems you have as opposed to fantasizing about what your life would be like without them, I am reminded of Trend Following's reliance on price. Price is a collective perception. You can accept it or ignore it. That brings us back to John W. Henry's love of numbers. Even when he owned the Florida Marlins, Henry knew he had to change:

"By the time he sold the Marlins to buy the Red Sox, Henry was convinced that baseball was putting too much emphasis on tools—baseball jargon for athletic ability—and not enough on performance. The on-the-field success of the Oakland A's, then the only team using sabermetrics, confirmed Henry's view. 'The Marlins would draft athletes,' he says, 'while the A's would draft baseball players.'[22]

Part of the problem, from John W. Henry's perspective, is the baseball old guard's love of the Adonis athlete over pure production—hitting, power, plate discipline. Would you rather have the ripped stud who looks the part, but swings and misses at every curveball, or do you notice that short fat guy who can't run and looks ridiculous, but never swings at a bad pitch and produces runs by the bushel? "Producing" is the John W. Henry goal in both his baseball and his trading. To reach his production goal requires clarity as Henry states:

"People in both baseball and the financial markets operate with beliefs and biases. To the extent you can eliminate both and replace them with data, you gain a clear advantage. Many people think they are smarter than others in the stock market, and that the market itself has no intrinsic intelligence—as if it's inert. Similarly, many people think they are smarter than others in baseball, and that the game on the field is simply what they think it is, filtered through their set of images and beliefs. But actual data from the market means more than individual perception/belief. And the same is true in baseball."[24]

For nearly 25 years, there's been a huge food fight in baseball. The argument was basic: How do you evaluate a player? On one side were general managers, scouts and managers. For the most part, they evaluated players the old-fashioned way—with their eyes, stopwatches and radar guns and by looking at statistics which were popularized in the 19th century. Their mind-set was always, "How fast does he run? How hard does he throw? What's his batting average? Does he look like a major leaguer should look?" On the other side—led by statistical gurus such as Bill James and Pete Palmer, and assisted by countless lesser "seamheads" (including, at times, me)—were the geeks, the outsiders, mere fans, who thought they knew better.

Thomas Boswell, Washington Post[23]

Thinking about baseball in terms of "numbers" was not done when I played the sport, nor do I have any memory of my coaches preaching the Bill James or John W. Henry gospel.

Red Sox 2003–2004

Red Sox Nation will forever debate whether or not Pedro Martinez should have been lifted in the 8th inning of Game 7 of the 2003 American League Championship Series against the Yankees. But he was left in, and the Yankees rallied from three runs down to win the series. Grady Little, the Red Sox manager, was blamed for Boston's loss and fired soon thereafter. Many people wondered if he wasn't being unfairly scapegoated for a decision others would have made. After all, Pedro was his ace, and Little's gut told him to stay with his ace.

It's like any field. There's a vested interest in maintaining the status quo so you don't have to learn anything new.

Robert Neyer, ESPN[25]

Perhaps in this situation, Pedro gets through the 8th nine times out of ten. After all, the percentage of innings in which a pitcher gives up three or more runs is small, and Pedro is an exceptional pitcher. However, a look at the numbers says that leaving him in was the wrong decision. After 105 pitches in a given start, his batting average against rises to .370. He ended up throwing 123 pitches in Game 7.

Little's dismissal was summed up in *The Brown Daily Herald*:

By the end of the 2003 baseball season I had learned something from publishing Moneyball. I'd learned that if you look long enough for an argument against reason, you will find it.

Michael Lewis[27]

"Grady isn't a stats guy, plain and simple. He's an old school manager who goes with his gut and defers to his partially informed conscience when making decisions. Contrast this with the front office, which has transformed itself into a sabermetric, number-crunching machine, and the divide is clear as day . . . Fast forward to the eighth inning of Game 7 of the ALCS. Grady sends Pedro back onto the mound to the surprise of many who assumed he would be yanked after throwing exactly 100 pitches. Opponents hit .364 off Pedro this year after his 105th pitch—even Tony Clark could hit Pedro in the late innings."[26]

The late, great Stephen Jay Gould, a numbers man (and lifelong baseball fan), offered some insight into the decision-making process that may have left Pedro in the game:

"Everybody knows about hot hands. The only problem is that no such phenomenon exists. The Stanford psychologist Amos Tversky studied every basket made by the Philadelphia 76ers for

more than a season. He found, first of all, that probabilities of making a second basket did not rise following a successful shot. Moreover, the number of 'runs,' or baskets in succession, was no greater than what a standard random, or coin-tossing, model would predict. Of course Larry Bird, the great forward of the Boston Celtics, will have more sequences of five than Joe Airball—but not because he has greater will or gets in that magic rhythm more often. Larry has longer runs because his average success rate is so much higher, and random models predict more frequent and longer sequences. If Larry shoots field goals at 0.6 probability of success, he will get five in a row about once every thirteen sequences (0.65). If Joe, by contrast, shoots only 0.3, he will get his five straight only about once in 412 times. In other words, we need no special explanation for the apparent pattern of long runs. There is no ineffable 'causality of circumstance' (if I may call it that), no definite reason born of the particulars that make for heroic myths—courage in the clinch, strength in adversity, etc. You only have to know a person's ordinary play in order to predict his sequences."[28]

Gould's friend, Ed Purcell, a Nobel laureate in Physics, did research on baseball streaks. He concluded that nothing ever happened in baseball above and beyond the frequency predicted by coin-tossing models. The longest runs of wins and losses are as long as they should be.[29]

Had Grady Little played the numbers in 2003, the Red Sox might not have had to wait until 2004 to finally win the World Series. For there is no doubt that an analysis of numbers, as evidenced by Bill James, Billy Beane, and John W. Henry, works as strategy for playing baseball.

When Grady Little let Pedro continue pitching into the eighth in Game 7 of the ALCS against the Yankees, he provided the perfect demonstrator of why the Red Sox fired him after his second winning season in Boston. Little explained his move (which allowed the Yankees to tie and eventually win) after the game: "We trained him to work just like that deep into a game. When he tells me he has enough in the tank to keep going, that's the man I want out there. That's no different than what we've done the last two years." In fact, the stats said just the opposite. Pedro pitched into the eighth only five times in his 29 regular-season starts, and simply didn't pitch well after he'd thrown 100 pitches, the number he'd tossed before taking the mound in the eighth. In fact, during 2003, opponents' batting averages went up .139 after Pedro tossed his 105th pitch—strong evidence that he'd continue to weaken. That it would turn out badly was likely, as most everyone knew—and as the Red Sox computers knew. [30]

Key Points

- John W. Henry: "Life is too dynamic to remain static."
- If you have realistic confidence in your method and yourself, then temporary setbacks don't matter. Going for the home run can allow you to come out ahead in the long run.
- Thinking in terms of odds is a common denominator of baseball and Trend Following.

The truth of a theory is in your mind, not in your eyes.

Albert Einstein[31]