ADVISOR PERSPECTIVES

Value Investing Lessons from Moneyball

By Laurence B. Siegel
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Is baseball a metaphor for life, as many literati have suggested, or for value investing? Michael Lewis' 2003 bestseller *Moneyball* argues the latter. More recently, the book has been adapted by screenwriters Steven Zaillian (*Schindler's List*) and Aaron Sorkin to make a thoughtful movie that will be of special interest to investors who believe in trying to find hidden bargains.

Moneyball focuses on the 2002 season of the Oakland Athletics, a team with one of the smallest budgets in baseball. At the time, the A's had just lost three of their star players – Jason Giambi, Johnny Damon, and Jason Isringhausen – to free agency because they could not afford to keep them.

Billy Beane, the team's general manager, was a former ballplayer of great promise but modest accomplishments, and he knew from his own experience that players do not always perform as conventional evaluation might suggest. Beane latched on to the statistical work of Bill James of the Society for American Baseball Research (SABR, hence "sabermetrics," the science of baseball) as a possible remedy for the team's woes. He identified a young Harvard graduate and Cleveland Indians analyst, Paul DePodesta (called "Peter Brand" and a Yale man in the movie), as an expert on sabermetrics, hiring him as assistant general manager.

DePodesta's method is to decompose a player's statistical history into its elemental parts, such as the frequency with which he hits the ball into a particular part of the field with runners on base. Using such logic, he argues that the gifted Giambi can be replaced by parts of three new players, acquired on the cheap. Accentuating the importance of this kind of analysis is the fact that Beane has very little money, by major league standards, with which to pay players.

Over the predictable opposition from conventional scouts and coaches, Beane and DePodesta hire a ragtag group of minor league and college players whose statistics suggest tremendous hidden ability. (The book, but not the movie, observes that Beane and his assistant greatly preferred college over high school players as subjects of their analysis, not because college players are better, but because they have had time to compile statistically meaningful track records against competent opposition.)

Beane and DePodesta, then, regard assembling a baseball team as a kind of optimization problem: maximizing wins subject to a tight budget constraint. And the analysis of how wins are produced reveals some surprises: on-base percentage and slugging average are more important than batting average or home runs. “He gets on base,” the two men repeat when each of their odd player choices is challenged by the coaches.

Since baseball results are public knowledge, it is not a spoiler to reveal that the A’s, assembled using this novel statistical method, struggled at first but, later in the same season, set the American League record for consecutive wins (20) and went on to win a remarkable 103 games and the division championship while spending only $41 million that season – a trifle compared with the Yankees who spent $126 million that year to achieve the same win total. Value investors indeed! The A’s, however, were defeated by Minnesota in the league championship series.

A core precept of value investing is to be a contrarian, someone who is inclined to look at the companies and ideas that almost everyone else rejects. Beane’s radical contrarianism and disdain for conventional wisdom caused him to seek out players whose very presence is offensive to traditional scouts and coaches. The pitcher Chad Bradford had an underhand throw that looks ridiculous until you see its paralyzing effect on batters; hitter Scott Hatteberg couldn’t throw because of an injured elbow; pitcher Jim Mecir, who appears in the book but not the movie, had a limp caused by two club feet. Catcher Jeremy Brown was fat. Those who tend to judge ballplayers on athleticism and fan appeal were horrified.

Of course, these very flaws are what made these players cheap. But some players deserve to be cheap (the “value trap,” in investing parlance), and not all of Beane’s choices were successful; Brown, drafted by Beane in the 2002 season, was not called up to the majors until 2006 and lasted only a month there. Contrarianism can go too far, and value investors should be on guard against an excess of it.

The parallel with value investing is not exact. Value investors typically win when the market recognizes the previously hidden value of a company – not when the companies themselves outperform expectations. But, according to the *Moneyball* strategy, baseball teams win when the synergy of the players unlocks talents that had been hidden from the scouts’ conventional appraisals. An even closer parallel, then, would be with a value-oriented private equity fund, where the fund manager directly applies skill to try to increase the portfolio companies’ returns.

Beane’s trading style is another departure from the tenets of value investing. A National Public Radio commentator noted Beane’s “laser focus” when trading with other team managers: Beane seems able to tune out everything except the minutiae of the deal he wants done. This gift for sharp dealing is common among hedge fund managers and others whose trades are based on outwitting other individuals. Value investors, in contrast, trade with an impersonal “market,” and benefit from patience and dispassion.

Who, then, are the growth investors of baseball? These are the team owners who pay up for past performance, including the wealthy Yankees, who lured Giambi and, later, Damon with fat paychecks. Of course, investors, unlike ball clubs, are judged on return per dollar invested, a practice that removes the advantage that rich investors have in being able to outbid poor ones for the same asset. A team of well-paid stars assembled by a rich owner may very well be the best team, even if those stars may "underperform" their fat contracts. (The Yankees are a case in point.)

In the book, Michael Lewis notes that the analysis of player statistics has an important limitation. "There was one other big glitch," Lewis writes. "These sorts of calculations could value only past performance. No matter how accurately you valued past performance, it was still an uncertain guide to future performance. … In human behavior, there was always uncertainty and risk." These words could have been cribbed off almost any investment manager's disclaimer page.

Lewis is, of course, intimately familiar with the ins and out of investing, having been a Salomon Brothers trader and having written *Liar's Poker* about that experience. More recently, Lewis' contributions to financial journalism include *The Big Short,* a vivid account of the 2008 mortgage market collapse and the hedge fund manager John Paulson's success in capitalizing on it.

Some may quibble with the title of the movie, but I disagree. While the word "moneyball" suggests an exposé of the undue influence of money on baseball – almost the exact opposite of what the movie is about – it turns out that the title is exactly right. Beane's and DePodesta's methods do not try to assemble the best possible team or to pick the best players. They seek the best aggregation of players *for the money*. Baseball managers, like other business managers, face a capital budgeting problem that the title evokes perfectly.

Most investors are familiar with the paradox of aggregation, which has an application in baseball. Like value investing, the *Moneyball* approach to baseball can't work if everybody does it. As the success of Beane's approach became clear, it also became widely imitated, so that the advantages that had once accrued only to the A's now spread to their opponents. The net result is that baseball is better off but no one team benefits.

The difficulty of maintaining an advantage using concepts that are more or less replicable is shown by the A's recent record: After a string of seasons where they contended for division and league titles, they have had subpar performance for the last five years. There is a close parallel to value investors who worry that there are too many value investors – the popularity of the investment style makes it harder for any given value investor to sustain his or her performance advantage over long periods of time.

Baseball is, of course, only one of many disciplines outside the world of finance to which the concepts of value investing can be adapted, albeit imperfectly. To be fertile ground for a "value investor," a market for goods or services simply needs to be inefficient in the sense that prices do not incorporate all relevant information, and feature a few other characteristics. A market with many noise traders or emotional buyers will favor the value investor. Complexity also favors value investors, since some market participants loathe complexity and focus on one or two variables that appear to, but may not, correlate with intrinsic worth. Strongly asymmetric information, such as exists with used cars, may militate *against* value investing, however; if there are insiders and outsiders, insiders will bid up the "good" goods, so that outsiders are well advised to buy whatever is expensive – that is, whatever the insiders are buying.

As with most movies that are based on books about ideas, *Moneyball* struggles somewhat to provide enough action to hold the viewer's interest. Fortunately, baseball is fun to watch, which fills some of the void. Serious investors and baseball fans, however, will want to know more – much more – about what DePodesta is actually doing on his computer, and how apparently mediocre or even bumbling players can combine, like an optimized security portfolio, to produce a superb team. (Lewis' book provides plenty of fodder for this kind of reader.)

The screenwriters who adapted *A Beautiful Mind* to the film medium faced a greater challenge and mostly rose to it, even though the example in the movie of a Nash equilibrium is not, in fact, a Nash equilibrium.[1] *Moneyball* has a few similar howlers, but likewise conveys enough of the thinking described in the book to hold a serious investor's attention. While the acting, cinematography, and other traditional topics of movie reviews are outside the scope of this one, investment fanatics will enjoy the more-than-cameo appearance by John Henry, the commodity trading advisor and Boston Red Sox owner, who plays himself in a delightful scene near the end. *Moneyball* is intelligent and provocative entertainment for investors and baseball fans alike.

Laurence B. Siegel is the research director for the Research Foundation of CFA Institute and senior advisor at Ounavarra Capital LLC. He can be reached at lbsiegel@uchicago.edu.

[1] Hat tip to Diane Garnick of the University of Chicago for this last insight – I suspected it when I saw *A Beautiful Mind*, but she knew it.