



# BATTING 1000?

*Ratios, averages and manager selection.*

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The Information Ratio (IR) is commonly used to measure the success or failure of money managers.

Conceptually, it's simply the ratio of the excess returns to the excess risk of an investment strategy relative to a benchmark. Unfortunately, when a fund manager quotes only the IR at the end of some fixed investment horizon, the fund's investors aren't easily able to see the string of successes and failures that led to the final outcome. Did the manager win or lose most of her bets?

Another measure of success is widely referred to as a "batting average." This is simply the percentage of investment decisions that led to a profit. This measure has a shortcoming, however—it doesn't give any information about how much money was made or lost due to a particular investment decision. This article will cover how the IR and batting average interact with one another and how these two measures of success can be usefully combined so that investors can construct a more comprehensive picture of the choices facing them.

Although it's clearly impossible to reverse-engineer an investment strategy employed by a particular fund manager, it is possible to show how one can extract a batting average once an IR is specified. In this example, the batting average will serve as an indicator of how often a manager must make independent and profitable investment decisions in order to obtain their stated IR. It will also provide insight into how much mileage is obtained from the information available.

### Averages at bat

The batting average, which is a function of the number of "at bats," will allow us to differentiate between managers who employ different investment strategies. This is because the number of "at bats" serves as a good proxy for how often a manager receives information relevant to the implementation of their strategy. We can, therefore,

differentiate based on the frequency with which managers receive (and presumably act on) new information.

Our study finds that the IR and batting average can often provide seemingly contradictory information. This confusion arises because success is a multi-dimensional concept and the IR and batting average measure different components of success. While the IR measures the risk-adjusted returns of a particular strategy, it can be argued that the batting average is a useful proxy for the skewness of the distribution of returns. The batting average, therefore, provides information about the higher moments present in a particular distribution of returns: information that cannot be measured by the IR.

It can be demonstrated that, if the payoffs for winning and losing are symmetric (a win followed by a loss results in zero return), then a winning strategy only needs to surpass a batting average of 50% by a tiny

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margin in order to generate spectacular IRs, provided the strategy is implemented frequently. The next step is to investigate the consequences of assuming a more realistic scenario, in which investment decisions have asymmetric upside and downside returns. This shows an intriguing result—that large batting averages can result in low IRs and that impressive IRs can be obtained with low batting averages.

Finally, we demonstrate that, given the choice between two managers with equivalent IRs, an investor who is adverse to blowups should choose the manager with the lowest batting average. Surprisingly, this runs completely counter to the intuition behind the standard marketing message used by many money managers that, "...our fund outperformed our benchmark in eight of the last ten years." ■