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### Carrying Statistics to Extremes

PALO ALTO—Two tendencies (among others) seem fairly universal among 20th Century humans: a desire to make money as painlessly as possible and excessive willingness to believe that statistics convey valuable information.

Now, suppose I say to you that statistics show that the fluctuation of major league batting averages and the outcome of Super Bowl football games are tied closely to the ups and downs of the stock market? You'd take me seriously, right?

Well, let's see. Take the football games first.

Through 1977, there were 11 Super Bowl games. Each time, the winning team was originally from either the National Football League or the American Football League (regardless of what conference they play in now). In six cases, the Super Bowl winner was from the pre-merger NFL; in five cases, it was an original AFL team.

And in all 11 years, whenever an old NFL team won the Super Bowl in January, the stock market rose during the next 11 months and finished that calendar year higher than it began. And whenever an old AFL team won, the market finished that year lower.

Coincidence? Isn't 11 out of 11 a little much for coincidence? So in 1978, Dallas won the Super Bowl and, according to the formula, the stock market should go up during 1978.

Year	Super Bowl Winner	Original League	Stock Market
1967	Green Bay	National	Up
1968	Green Bay	National	Up
1969	New York Jets	American	Down
1970	Kansas City	American	Down
1971	Baltimore	National	Up
1972	Dallas	National	Up
1973	Miami	American	Down
1974	Miami	American	Down
1975	Pittsburgh	National	Up
1976	Pittsburgh	National	Up
1977	Oakland	American	Down

## **Do Stock Prices Affect Batters?**

Now consider the baseball case. Since 1963, a period covering the last 15 seasons, the pattern has been when the aggregate major league batting average goes up, the stock market goes down, and vice-versa.

This has been true in 12 of the 15 years—not a perfect fit like in football, but again far beyond what we ordinarily shrug off as coincidence. (The exceptions were 1964, when both batting and stocks went up; 1974, when they both went down, and 1975, when they both went up. But in 1973, 1974 and 1975 batting averages were so nearly identical that you have to take them to a fourth decimal place to find their direction.

For the football example, I can think of no theoretical explanation, but for baseball I can.

My theory is since players started making more money and investing it, when the market goes up, they relax a bit, and when the market goes down, the hitters stand in a little tougher against the curve ball.

That sounds facetious, but think about it for a moment. Hitters and pitchers live different lives. A starting pitcher works only every fourth or fifth day; a reliever only in emergencies. In either case, his motivation for top concentration is always fresh and his record—on which his income depends—is affected proportionately more by each appearance than a hitter's is by each time at bat. The regular hitters go up there four and five times a day, in no-importance situations as well as in clutch situations, tired or not, 500 or 600 times a year. They are more likely to have lapses in concentration than pitchers are.

So it seems plausible, at least, that hitters as a group (not any one particular man) are more likely to slip into less effective patterns when their outside income seems more secure, and more motivated to bear down when each hit means bread and butter. Pitchers would not be as sensitive to the stock prices.

Such a theory depends entirely, of course, on having a lot of ball-players owning stock. It wouldn't matter what stocks did if players didn't have a reason to think about them.

## **What Does It All Mean? Nothing!**

And here we come to some interesting supportive evidence. As I said, this pattern—market up, batting down; market down, batting up—has been strong since 1963. Before that, there is no pattern (with a striking exception that we'll return to in a moment). Well, it is a fact of American life that in the early 1960s, more and more middle-class people started buying stock and that in the same period ballplayer incomes started to rise (although not as fast as in the 1970s, of course).

Before that, relatively few ballplayers were in a position to be in the stock market—except during the 1920s, the only other period in American history when “ordinary” people were “in the market” on a large scale.

And what happened in the 1920s? The batting-up, market-down, vice-versa pattern held true in seven of the 11 years from 1920 through 1930.

That's the exception I referred to, and if we put it together with recent years, we get this: when hitters in general invest in the stock market, batting averages go opposite to market trends 19 times in 26 years, or 73 percent of the time. But in the 29 years between 1930 and 1963 (leaving out three war years), when presumably few players were investing, that pattern held true only eight times—with five other years in which the batting averages were virtually the same in adjacent years. That period, then, is close to random.

What does all this mean? Absolutely nothing on any rational level—and that's exactly the point. Just because two sets of numbers coincide in some way, don't leap to the conclusion that one set "causes" the other. To use sports statistics constructively, you must never lose sight of that possible error. Some sets of numbers do prove something, others don't prove but suggest and others create misleading similarities. Statistics, always, are the starting point of an investigation, not the conclusion.