

Compensation Tournaments

In the heat of the summer,
sports tournaments
are everywhere.

From beach volleyball and soccer to tennis and golf to playoffs for the Little League World Series, tournament play has lessons for workplace compensation. It was

actually a 1989 presentation by Cornell's Ronald Ehrenberg of his paper co-authored with Michael Bognanno called "Do Tournaments Have Incentive Effects?" that inspired me to study compensation. I was a college sophomore in Amherst, Mass., and the idea of paying not on the absolute level of output (sell 100 widgets and get paid \$100) but on the relative level of output (sell more than everyone else and get paid \$1,000) sounded incredibly interesting.



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The Classic Paper

The classic tournament paper by Edward Lazear and Sherwin Rosen is now more than 30 years old. The paper, "Rank-Order Tournaments as Optimum Labor Contracts," was published in the *Journal of Political Economy* in October 1981. Lazear and Rosen theoretically examine a situation where individuals are paid on the basis of their rank among a group and not necessarily on their output, a useful structure in situations where it is difficult and/or expensive to measure individual effort well. An important characterization of the tournament payment structure, they note, is that payment (winning the prize) depends on the rank order and not the "distance" between the individuals' performances. So if one individual narrowly wins the first place prize, he/she gets exactly the same prize as if the gap is vast between that of the winner and that of the second place finisher.

Among their findings: When workers are "risk neutral" (gain no thrill from the potential of winning or anxiety from

the fear of losing), a payment scheme based on rank can elicit precisely the same level of effort from workers as a payment scheme perfectly matched to individual effort; this means piece-rate pay. A tournament scheme can motivate workers the same if workers are risk neutral. Lazear and Rosen also showed that: 1) when workers are risk averse, as many are, there are some circumstances when workers might actually prefer to be paid based on rank, 2) the level of effort a worker puts forth in a tournament depends on the size of the prize (e.g., level of promotion and size of associated raise) and 3) breaking employees (players) into groups of more similar quality (e.g., leagues) has further useful outcomes. Their seminal paper put forth a lot of interesting findings and launched a host of empirical work.

Payments in Sports Tournaments

A rich place to study tournament pay, performance, output, effort and the like is professional golf, because so much is measured. Great data are available on the incentive structure; for example, the distance in dollars between the first place prize and the second place prize, and the distance in dollars between the second place prize and the third place prize, and so on. And, a lot is known about individuals' output (players' scores), and even course difficulty and playing conditions.

Ehrenberg and Bognanno's paper, published in the *Journal of Political Economy* in 1990, studied the Professional Golf Association tours and found strong evidence that the level and structure of the prize system has meaningful effects on player performance. After controlling for all sorts of details about player quality, weather, course difficulty and a host of other characteristics, they find that the bigger the prizes (all else equal) the lower the scores, and the higher the "marginal return to effort" leading to a lower score in final rounds. Lower scores are good in golf, so this means that where there are bigger awards in tournaments, players do better.

Tournament Compensation in Workplace Practice

Since these early path-breaking publications, researchers have studied many topics related to tournament pay in the workplace, including CEO productivity, gender equity and disincentive possibilities in "repeated tournaments" such as you'd find in ongoing or repeated work for the same company. Research has also expanded to study the effects of more sophisticated or blended tournaments such as the piece-rate tournament where the payment is based on some calculation of the difference between an individual's performance and the average performance of a larger group.

One such study looks at the contract payment data in the market for broiler chickens. It turns out that in the U.S. broiler chicken market, independent farmers are organized by large processing companies and paid based on relative performance through a piece-rate tournament. (See Armando Levy's and Tomislav Vukina's "The League Composition Effect in Tournaments With Heterogeneous Players: An Empirical Analysis of Broiler Contracts" in the April 2004 *Journal of Labor Economics*.) The authors of this tournament pay study emphasize that individuals could face very different odds of doing well and earning a tournament payoff based on whether, because of random assignment, they face a much better or much worse competitor early in the tournament. Many sports tournaments use seeding to lessen this apparent random "luck of the draw." Among Levy's and Vukina's findings: There may be gains to tournaments over piece rates, but complexities like assignment of competitors (leagues) and the effect of repeated tournaments must be considered.

Glengarry Glen Ross

One of my favorite examples of a compensation tournament comes from the movie adaptation of David Mamet's Pulitzer Prize winning (1984) play, "Glengarry Glen Ross." In the 1992 movie version, a new character was created and Alec Baldwin played the role. In it, he screams at a team of salespeople, confronting them with their new compensation system. The new pay scheme is a tournament (although he doesn't use that word) with a first, second and third place prize. First place prize is a Cadillac El Dorado, while second place prize is a set of steak knives and third place prize is "You're fired." This new compensation system obviously gets employees' attention, and it does seem to motivate. But obviously, it also creates serious problems. 



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