

Incentives and the National Football League's Reverse-Order Draft System

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Economics

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**20-minute oral presentation
(including questions)**

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Exploring the relationship between incentives and their impacts on policy development is an important issue in the academic literature; and as such, holds important implications in both research and practical applications. Simply stated, policies are often implemented in order to elicit a desired response (e.g., through increased effort, levels of motivation, etc.), and as a result, create incentives for the individuals involved. The present study examines the extent to which incentives, specifically incentives-to-lose, are created by the current reverse-order draft system in the National Football League (NFL).

Central to the present study and developed through the seminal work of Lazear and Rosen (1981), tournament theory (TT) was conceptualized in order to better understand the impact of compensating individuals based on their relative (i.e., "rank order") performance, as opposed to the more traditional, absolute (i.e., "per unit") level of performance. Further, tournaments provide a framework for evaluating the incentive effects that result from the nonlinear reward structures (i.e., where individuals who have a "higher rank" are compensated exponentially greater than those finishing with a "lower rank") which are often fundamental to tournament-structured systems.

Though originally conceptualized to describe behavior in non-sport (i.e., workplace) settings, more recently researchers have turned to sport-focused data to empirically investigate tournament theory, as it is much easier to quantify effort (e.g., a golfer's score) and relate it to compensation (e.g., prize money) within this landscape. As an example, Ehrenberg and Bognanno (1990) examined data from the 1984 United States Professional Golf Association (PGA) Tour. Their results indicated that both the nonlinear prize structure present in PGA tournaments and higher tournament purses significantly predicted an increase in golfer performance (i.e., better player scores). Similar research efforts have also explored tournament-like incentives in other sport settings such as auto (e.g., Becker & Huselid, 1992; Schwartz, Isaacs, & Carilli, 2007), foot (e.g., Maloney & McCormick, 2000; Lynch & Zax, 2000), and horse racing (e.g., Lynch & Zax, 1998; Lynch 2005).

In addition to evaluating relative performance and nonlinearities, TT can offer an understanding for how policy changes create incentives for behavior, effort, and performance. Currently, the National Football League employs a "reverse-order" draft system for teams that do not participate in postseason play -- i.e., the non-playoff team with the worst record from the previous season receives the first pick, the team with the second-worst record receives the second pick, and so on. Based on this system, it has been suggested that incentives-to-lose are created in order for teams to improve their future draft position once they have been eliminated from playoff contention. This phenomenon (more commonly referred to as "tanking") is often seen in professional sports where player quality is generally higher towards the beginning portion of the draft (as in professional basketball and football); and as the draft progresses, the talent pool decreases exponentially -- a characteristic consistent with TT predictions and Rottenberg's (1956) invariance principle.

While the idea surrounding this phenomenon is not a new topic, the current literature examining the incentives resulting from intentionally losing games in order to gain a subsequent advantage in future competition remains limited. For example, Taylor and Trogdon (2002) investigated the outcomes of games under three different draft-order systems in the National Basketball Association (NBA). Their results demonstrated strong evidence that professional basketball teams were more likely to lose when the actual incentives to lose are present. Additionally, these changes to the draft-order system did deter tanking; however, it did not eliminate it. In short, losing (once a team was eliminated from playoff contention) created a positive incentive as the probability to attain a higher future draft position was increased. To extend this line of research within professional basketball, Price et al. (2010) suggested that NBA teams were more likely to intentionally lose games towards the end of the regular season when the incentives to finish last were the largest -- thus, confirming the findings of Taylor and Trogdon (2002). Similar studies have been also conducted in professional sumo wrestling (Duggan & Levitt, 2002; Dietl, Lang, & Werner, 2010) and Australian Rules Football (Borland, Chicu, & MacDonald, 2009).

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To extend the research in this area, the present study explores the impact of the NFL's reverse-order draft system by examining the incentives associated with losing intentionally in order to improve a team's future draft position. Based on the model developed by Taylor and Trogdon (2002), the tournament-like nature of the NFL's reverse-order draft system is investigated by relating a binary win variable (the dependent variable) of a given football contest to four binary independent variables: (1) whether a team has been eliminated from playoff contention; (2) whether a team's opponent has been eliminated from playoff contention; (3) whether a team has clinch a playoff berth; and (4) whether a team's opponent has clinch a playoff berth. Additionally, other variables were included in the model which accounted for team quality (i.e., a given team's and their opponent's winning percentage) and home-field advantage. Consistent with TT, it is predicted that the current reverse-order draft system in the National Football League creates a positive incentive for teams to intentionally lose in order to improve their future draft prospectus.

These predictions were tested using binary logistic regression on a pooled dataset of all NFL regular season games played during the 2006-2011 seasons ($n = 3072$). Results from the present study suggested some evidence that an incentive to intentionally lose existed for teams eliminated from playoff contention. In particular, under ceteris paribus conditions, teams eliminated from playoff contention were 1.5 times more likely to lose the game ($p < 0.01$), while teams participating against an opponent already eliminated from the playoffs were 1.7 times more likely to win the game ($p < 0.01$). Additionally, teams were approximately two times more likely to win a game when playing at home ($p < 0.01$) and 4.1 times more likely to win for each ten-percentage point increase (e.g., from 60% to 70%) in their winning percentage ($p < 0.01$). Clinching a playoff berth, for both a given team and their opponent, was not found to be significant predictors of winning a football game.

The present study findings, many of which are consistent with tournament theory assumptions, offer evidence that NFL teams respond to the positive incentives afforded by losing intentionally in order to improve their draft position in the following season. Additionally, the results recommend the possible need for NFL league executives and policy makers to examine the current draft order system in order to maximize team effort throughout an entire season. In addition to contributing to the growing empirical literature examining tournament theory within a sports setting, the present study suggests a number of future research directions such as exploring the impact of the reverse-order draft system on league competitive balance, incentives-to-win, gate revenues, and on-the-field team performance behavior.