Extended Abstract

In general, tournament schemes are designed in such a way that higher effort (in absolute and/or relative terms) is rewarded. But this theory does not always hold in practice. As Taylor and Trogdon (2002) have shown in their paper "Losing to Win: Tournament Incentives in the National Basketball Association (NBA)" (Journal of Labor Economics), the tournament structure of the NBA regularly scheduled season of games offers rewards for both winning and loosing, because of the underlying tournament incentives provided by the NBA’s introduction and restructuring of the lottery system to determine draft order.

We use the same approach as Taylor and Trogdon (2002) but data from the National Hockey League (NHL). Our data contains 65,072 observations from 31 seasons (1981-2013). With our data we investigate whether team performance responds to changes in the underlying tournament incentives provided by the NHL’s introduction and reconstruction of the NHL Entry Draft. The NHL Entry Draft is an annually held meeting, where every franchise of the NHL systematically selects the rights to available amateur ice hockey players (from junior, collegiate or European leagues) who meet draft eligibility requirements.

Between 1981 and 2013, the determination of the order of selection at the NHL Entry Draft has changed three times. From the beginning of the NHL league up to 1994, the order of the first round of the draft was solely determined by the standings at the end of each season. In 1995, the NHL introduced the NHL Draft Lottery, where only the teams who had missed the playoffs (POs) could participate. The chances of winning the lottery (the winner gets the first Entry Draft pick) were weighted towards the teams at the bottom of the regular season standings to give them the best chances of winning. In addition, the winner of the lottery would move up a maximum of four places at the draft order (which means that only the last five placed teams had a potential chance to win the lottery). As of 2013, the limit of moving up in the draft order was eliminated, and the rest of the lottery rules remained the same.

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1 Please note that the number of games played per season, and the number of teams participating in the league varies over seasons due to changes in the league structure. Further, in 2005 the whole season was cancelled.
Our results show that team performance, reflected in the winning probability of a game, responds to the introduction and reconstruction of the NHL Entry draft lottery. Until 1994, the probability of winning a game decreased significantly when a team had no longer a chance for a PO spot, which on the other hand increased their probability of getting the first draft position. From 1995 to 2012, the winning probability is still significantly decreasing for teams having no PO spot, but at a lower rate compared to the time without a NHL draft lottery. Starting in 2013, the probability of winning a game is no longer influenced by having a PO spot or not. So generally, we find that teams eliminated from the POs are significantly more likely to lose than noneliminated teams only if they are more likely to be rewarded with better draft positions.

We further investigate how certain variables, which also reflect the performance of a team (like the amount of penalties, team shifts, totalshoots, ect.) change, whenever a team becomes eliminated from the playoffs. In detail, we show how variables differ within a team that does not get to the PO, before and after they have no longer a chance to play at the PO, and for each three Entry Draft schemes.

Analysing the variables gives us not only further insight into whether team performance reacts to tournament incentives, but especially it shows how it reacts to them. On the one hand, one could argue, that if a team has no longer a chance to get to the POs, their motivation to provide high effort will decrease, and this will result in performance changes. But on the other hand, our results provide evidence that less motivation could not be the only driving force behind lost games. Instead we found indication for a kind of strategic performance change, whenever losing invectives are present. In particular we argue that strategic behaviour by teams leading to a lower probability of winning can be captures by a higher number of substitution (team shifts) during a game.

To sum up, providing lower effort (reflected in team performance in our paper) could be a value maximizing strategy for a team, and therefore a lower provided effort may not only be explained by decreased motivation, but it can also be the result of a conscious strategy. This is reflected in real world data and therefore must be taken into account when tournament schemes are designed and carefully handled, especially in environments like sports, where in general every tournament should only incentivize winning.

References