Can Losing Mean Winning in the NFL? Quantifying the Influence of Deviations in Past NFL Standings on the Present

Can Losing Mean Winning in the NFL?

Quantifying the Influence of Deviations in Past NFL Standings on the Present

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Abstract

Although plenty of research has studied competitiveness and re-distribution in professional sports leagues from a correlational perspective, the literature fails to provide evidence arguing causal mechanisms. This thesis aims to isolate these causal mechanisms within the National Football League (NFL) for four treatments in past seasons: win total, playoff level reached, playoff seed attained, and endowment obtained for the upcoming player selection draft. Causal inference is made possible due to employment of instrumental variables relating to random components of wins (both in the regular season and in the postseason) and the differential impact of tiebreaking metrics on teams in certain ties and teams not in such ties. Results support intuition that increasing the perceived value of draft endowment (that is, acquiring picks nearer the beginning of the draft) positively affects future success. However, results fail to support intuition that worsening a team's win total, playoff seed, or playoff level reached has negative consequences in the long run through the channel of draft endowment. Specifically, in the case of playoff seed, there even seems to be a positive momentum effect from season to season, whereby teams with higher seeds last season are nudged towards higher seeds this season. These results help one to understand competitiveness and re-distribution in the NFL.

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1 Introduction

Professional sports leagues across the world provide a significant source of entertainment and camaraderie for many individuals and groups. Communities can rally behind a team; children can learn about traits like teamwork while watching players perform. Research and intuition suggest that in general, the more competitive a league is, the more allure it has to fans (Knowles et. al 1992; Fort and Quirk 1995; Crooker and Fenn 2007; Soebbing and Mason 2009). Plenty of research, like that cited above, has investigated levels of competitiveness across multiple leagues, and modeled rules leagues can enforce to encourage competitiveness. However, most of this research has been based in deriving theoretical models and occasionally providing correlational evidence to support them. In so doing, it has failed to isolate specific causal mechanisms through which league re-distribution of success may or may not have occurred.

The National Football League (NFL) is one of the most popular professional sports leagues in the United States of America, and is the premier professional league of American football in the world. Some studies (Moskowitz and Wertheim 2011, 59-63; Winston 2012, Chp. 41[1]) have suggested it to be one of the most competitive major sports leagues in the United States. This thesis seeks to isolate the causal impacts that different end-of-season past outcomes have on present success. Importantly, these are not the correlational relationships between past outcomes and present success (which plausibly would be driven by past team quality, which may remain sticky from season to season). Rather, they are the structural and psychological factors influenced by team success measures. Different team success measures may have different channels of influence. For instance, advancing another round in the playoffs last season would provide a team with added experience in a playoff environment this season – if such experience is helpful for future playoff success, this metric could carry a different level of influence than wins in the regular season, for instance. Therefore, this study looks at multiple outcome metrics from past seasons and evaluate each of their causal impacts.

To identify causal relationships, each of the four treatments under study past seasons' win totals, playoff seeds attained, playoff levels reached, and draft picks allocated for the upcoming draft are matched with an instrumental variable (IV) model. Section 2.4 introduces the basics of IV strategies, and Section 3 provides detail on the specific models employed in the paper. Generally speaking, the paper takes advantage of two types of randomness to isolate deviations in the treatments. To identify deviation in win totals and playoff levels reached, the paper employs randomness in the final two minutes of games which lead teams to unlikely victories or unlikely defeats. To identify deviation in playoff seeds attained and draft picks allocated, the paper employs randomness relating to the tiebreakers used for determining these two allotments.

The results paint an interesting picture. The IV regressions suggest that draft pick allotments do matter; increasing one's perceived draft endowment value by one standard deviation *holding all else constant* can be expected to cause a lasting positive effect for the team's success. However, with that said, the IV regressions for other treatments, especially playoff seed attained, suggest that improvements in draft endowment *at the expense of perceived team success metrics* may be offset. Although winning an additional game, improving one's seed by an additional place, or advancing an additional playoff round should hurt one's draft endowment, and thus hurt their future success, the IV regressions using each of these treatments fails to display a negative effect on the future. To the contrary, the IV regressions using playoff seeds as a treatment display a positive effect for success in the next few seasons. Therefore, the analysis suggests that even though teams winning more games, attaining better seeds, and advancing further in the playoffs get worse draft allotments which *should* reduce their success in the future, they end up showing no effects of decline. This momentum could come from a variety of factors attracting players to join the team, empowering coaches to make more risky

[1] The e-book does not have numbered pages.

decisions (Romer 2006), psychologically improving players' confidence, increasing postseason experience, and so on. The specifics of what drives the momentum is beyond the scope of this study.

This study proceeds as follows. Section 2 briefly discusses existing literature on competitiveness in professional sports leagues, the structure of the NFL, player-to-team allocation in the NFL, an overview of the econometric techniques employed in the paper, and a model for team success over time. Section 3 presents the data source, variables used, and the specific strategies used to identify causality. Section 4 presents results. Section 5 concludes.[2]

[2]Many specific details related to the league's rules and the econometric models are included in the Appendix (Section 7).

2 Background

2.1 Existing Literature

Research on NFL parity from season to season has rarely employed econometric techniques to identify causal effects. Generally, most of the legwork in football analytics is focused on predictive and descriptive analytics as opposed to causal inference. For instance, scholarship has been written on both player personnel (Kahn 1992; Kitchens 2015; Roach 2018) and coaching decisions (Quenzel and Shea 2016; Keefer 2019). This is in addition to the vast network of pieces written by members of the media and fans, like Harvard's own Sports Analysis Collective (Meers 2011) and freelancer-turned-ESPN-contributor Brian Burke (Burke 2016).

Causal identification strategies are occasionally employed in such studies (Burnett and Van Scyoc 2015; Hughes et. al 2015; Keefer 2016), but not in the area of league parity. That said, study of parity and competitiveness in both the NFL (Uyar and Surdam 2013) and professional sports leagues in general (Knowles et. al 1992; Fort and Quirk 1995; Crooker and Fenn 2007; Soebbing and Mason 2009) has been quite thorough besides its lack of causal inference. One interesting example of a descriptive investigation of NFL parity is in Massey and Thaler's 2013 paper. They study the surplus value of NFL draft picks, and argue that the true value of first round draft picks increases through the round, with the first overall pick being the least valuable pick in the first round[3] (1489). This implies that the league's re-distributive draft system actually works to the advantage of already-successful teams, at least in the first round. I challenge that claim in this thesis, as I find that draft endowment improvement causes improvement in standings, holding all else constant, from season to season.

2.2 League History and Structure

The modern National Football League was founded in 1970 by the merging of its same-name predecessor and that predecessor's competitor, the American Football League (AFL). At its founding, the league was composed of 26 teams; by 1993, the number had risen to 28. In 1995, the league added two new teams, in 1999, the league added one more, and in 2002, the league admitted its final expansion team (at least to this day). The league has always been composed of two conferences, the American Football Conference (AFC) and the National Football Conference (NFC); however, the divisions within each conference have changed over time. Table 1 displays these shifts. In 1993, the first year included in the data used by this study, each conference was split into three divisions: an eastern division, a central division, and a western division. The central divisions had only four teams, whereas the others had five. However, this irregularity was resolved by the addition of two teams to the league in 1995. The team added in 1999 joined the AFC Central, bringing its total to an irregular six teams. However, when the final expansion team brought the number of teams in the league to 32, the league shifted into eight divisions, each with four teams.

For the entire period of time under study, the same playoff system remained in place. Each conference produces six playoff teams, each given a seed. Division champions receive the highest-ranking seeds (1, 2, and 3 before 2002; 1, 2, 3, and 4 from 2002-on). The lower-ranked seeds go to the "wild cards," who are the winningest teams that failed to win their divisions. There are four playoff rounds. The Wild Card round pits the 3 seeds against the 6 seeds, and the 4 seeds against the 5 seeds. The Divisional round pits the 1 seeds against the worst surviving seeds from the Wild Card round, and the 2 seeds against the best surviving seeds

[3] Barring the event of a trade, as they also argue the league currently vastly overvalues that pick. The low surplus value of the first overall pick is due to the higher salary the team is forced to pay their draftee.

Table 1: League Divisions Over Time

Seasons	League Structure Over Time									
	AFC East	AFC West	AFC Central	AFC North	AFC South	NFC East	NFC West	NFC Central	NFC North	NFC South
Number of Teams per Division										
1993-1994	5	5	4	N/A	N/A	5	5	4	N/A	N/A
1995-1998	5	5	5	N/A	N/A	5	5	5	N/A	N/A
1999-2001	5	5	6	N/A	N/A	5	5	5	N/A	N/A
2002-2019	4	4	N/A	4	4	4	4	N/A	4	4
Possible Seeds Automatically Awarded to Division Champion										
1993-1994	[1,3]	[1,3]	[1,3]	N/A	N/A	[1,3]	[1,3]	[1,3]	N/A	N/A
1995-1998	[1,3]	[1,3]	[1,3]	N/A	N/A	[1,3]	[1,3]	[1,3]	N/A	N/A
1999-2001	[1,3]	[1,3]	[1,3]	N/A	N/A	[1,3]	[1,3]	[1,3]	N/A	N/A
2002-2019	[1,4]	[1,4]	N/A	[1,4]	[1,4]	[1,4]	[1,4]	N/A	[1,4]	[1,4]
Wild Card Seeds allotted										
1993-1994	4, 5, and 6 seeds to winningest AFC teams					4, 5, and 6 seeds to winningest NFC teams				
1995-1998	4, 5, and 6 seeds to winningest AFC teams					4, 5, and 6 seeds to winningest NFC teams				
1999-2001	4, 5, and 6 seeds to winningest AFC teams					4, 5, and 6 seeds to winningest NFC teams				
2002-2019	5 and 6 seeds to winningest AFC teams					5 and 6 seeds to winningest NFC teams				

from the Wild Card round. The Conference Champshionship pits the surviving teams against each other to determine the winners of the AFC and NFC. These two winners face off in the NFL's championship game, the Super Bowl. In each of the rounds besides the Super Bowl, the better seeded team hosts the game. The Super Bowl is held at a neutral location.

Each team plays 16 games in the regular season. Division winners are determined by winning percentage ($\frac{Wins+0.5Ties}{16}$). Likewise, the wild cards are determined by winning percentage among teams not winning their divisions. Quite frequently, at least one wild card has a better record than at least one division champion, and so teams with more wins may end up seeded below teams with fewer wins if they had a very strong divisional opponent. Figure 1 displays teams' seeds and effective wins (wins $+\frac{1}{2}$ ties, a metric used throughout the paper that I often refer to as EW) in 2005, a strange year for standings.[4] Note how the 4 seed in the AFC had fewer effective wins than both the 5 and 6 seeds (the latter were the Wild Cards) and was tied with a team that missed the playoffs entirely. In the NFC, four out of six playoff teams had the same number of effective wins, leading to thorough application of tiebreakers. Variation in tiebreakers, both for playoff seeding and draft pick allocation, provides some of the randomness this paper employs in its causal identification strategies.

The number of effective wins required to make the playoffs, as well as attain good seeds once qualified, has varied greatly by season. Figure 2 displays the frequencies of seed-effective wins pairs aggregated over the entire 26 year sample. Note how much overlap in effective wins teams in the red (who failed to qualify for the playoffs), teams in the green (wild card teams), and teams in the blue (division champions) have had over time. The 16 game season provides little variation for sorting 16 teams (or less, before 2002) into 6 seeds.

[4] Figure 7, in Appendix 7.1.2, displays the standings for each conference-season pair

Figure 1: Seeds and Effective Wins in 2005

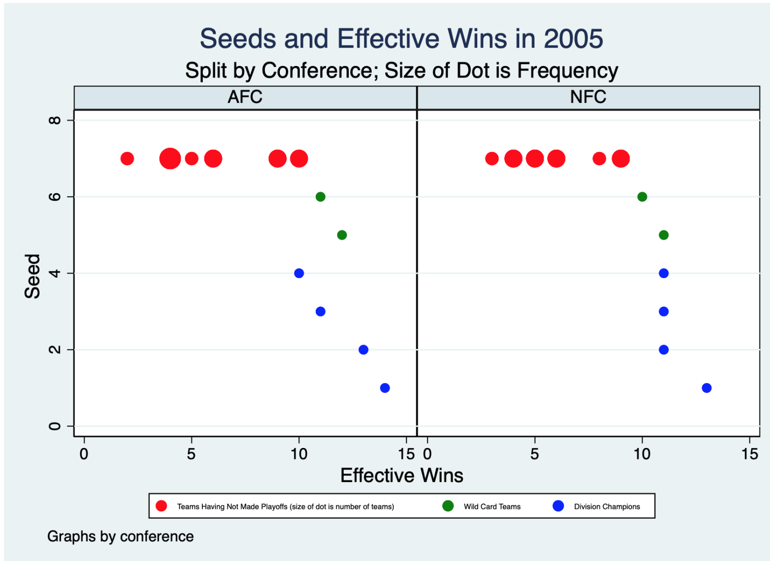
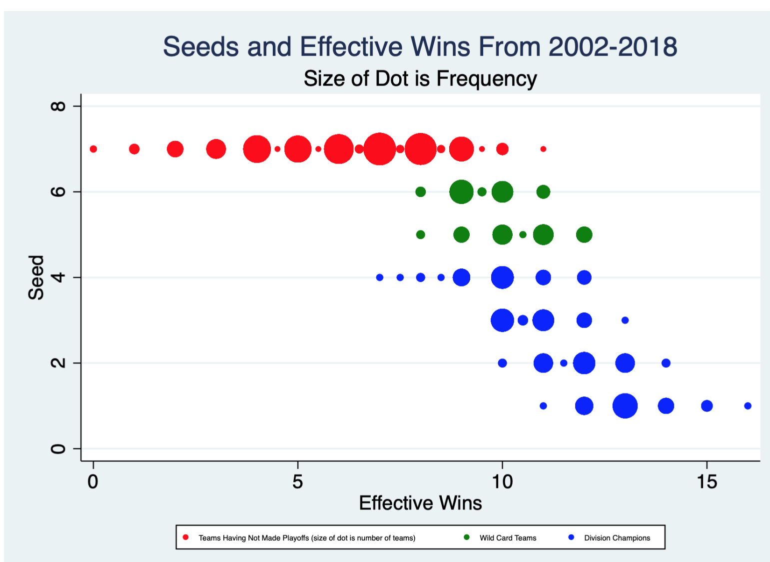


Figure 2: Seeds and Effective Wins Aggregated from 2002-2018



2.3 Player-to-Team Allocation in the NFL

The mechanisms by which players are matched with teams are important for understanding what happens between two NFL seasons. There are two such mechanisms[5]: the player selection meeting (draft) and free agency.

Every spring, teams take turns choosing among players who that year declared interest in playing in the league. Since the 1994 draft (which corresponds to the 1993 standings, the first in my data set), there have been seven rounds per draft; the league allocates each team one pick per round, and all seven rounds are completed within a weekend. These picks are allocated in the reverse order of the prior season's standings. The specifics of this process are addressed in Section 3, as well as in more detail in Appendix 7.1.3-7.1.6. In addition to the seven picks automatically granted to each team, the league awards *compensatory draft picks* to teams who have lost players through free agency[6] and *expansionary draft picks* to teams who are joining the league. Once the draft concludes, teams and players negotiate contracts. However, the league's collective bargaining agreement (CBA, the legal agreement between the players' association and team owners that outlines the player-to-team allocation processes) has tight guidelines on the size (salary, bonuses, and duration) of rookie contracts. Thus, it is mostly accurate to picture players obtaining a contract fixed by their pick number (i.e. the first overall pick is paid much more than the fortieth overall pick).

Free agency is the open market for players who either went unpicked through the entire draft, others whose contracts have expired, and others who were released from their teams. These players can choose which team they will want to play for.[7] The CBA includes the imposition of a salary cap, standard across all teams. This limits the budget of each team, and accordingly the potential payout to the universe of players. This also acts (at least in theory) as a re-distributional mechanism, as weak teams (which likely do not have a payroll nearing the salary cap) will generally be free to spend more on free agents. Multiple incentives exist for players beyond salary. Often, inherent personal preferences such as birthplace and family location can impact one's decision. Further, many players cite a team's ability to succeed as an influence on their choice of a franchise to join – this is important to note when considering the effects of team success metrics in past seasons impacting their ability to succeed in the present.

All draft picks[8] and all players can be traded among teams. They can also be packaged together, for example trading two picks and a player for one higher value pick.

2.4 Instrumental Variables and Difference-in-Differences Estimation

This study seeks to isolate the causal, not correlational, impacts that different end-of-season past outcomes have on present success. The problem is that these treatments can also be affected by other entities, and so the correlations may be misleading. In order to determine causation, one must exploit randomness in the treatments, essentially observing a natural experiment in which different teams are randomly assigned to different groups – some getting randomly higher values of the treatment, and some getting randomly

[5] Technically, there are three. There is a supplemental draft composed of players who wanted to declare interest in the league but were not permitted for the regular draft. Teams rarely exercise the option of picking in the supplemental draft, and so I ignore it here. It is detailed in Appendix 7.1.4.

[6] The league hands out these picks to teams who had more player quality choose to leave them than to join them.

[7] This technically describes unrestricted free agency. There is another, more rare, form of free agency called restricted free agency. Essentially, restricted free agency is a hybrid between the draft and unrestricted free agency. However, its details are not necessary to discuss in this paper.

[8] To be precise, all picks within the next three drafts; teams cannot trade picks four or more years out.

lower values of the treatment. Two techniques that exploit such random variation are instrumental variable regression and difference-in-difference (DiD) estimation.

Imagine that one is curious whether a treatment T affects an outcome Y. Further, assume that there exists some X that correlates with T and also Y. Simply predicting Y using T would provide a correlational relationship, describing how the two generally vary together, but would not be able to provide a causal estimate of T on Y, due to X's interference. Perhaps X increases both T and Y, while T does nothing on its own to increase Y. Looking solely at the relationship between T and Y could make one think that T impacts Y, because as T rises, Y rises as well. However, this is only due to X's influence on both.

For example, imagine that T represents whether someone brings an umbrella to class one day (1 if they do and 0 if they do not), X represents whether it rains that day (1 if it does and 0 if it does not), and Y represent the healthiness of plants in the area the next day (assume that without the rain they would dry up, but with rain they would remain healthy; Y will be 1 if they are healthy and 0 if they are dried up). Assuming the person doesn't always bring their umbrella, but instead only does if they think it will rain, one would expect that their using an umbrella would correlate with the health of the plants the next day. However, the former does not cause the latter; rather, X influences both.

However, imagine that Z represents whether someone accidentally viewed next week's forecast (which always says it will rain), instead of today's (1 if they viewed next week's, 0 if they viewed this week's). If $Z = 1$, the person would be encouraged to bring their umbrella *regardless of the actual weather today.*[9] If $Z = 0$, we're back to the world of only T, X, and Y, with $X = 1$ usually leading to both $T = 1$ and $Y = 1$.

Therefore, Z will influence Y, but only through T. Z is an example of an **instrumental variable**. Instrumental variables impact a treatment, leading to deviation in the treatment *and the treatment only* that can allow one to consider the treatment's causal effect on an outcome. An instrument must satisfy two primary conditions:

1. Relevance: the instrument must reliably predict the treatment.
2. Exclusion restriction: the instument must *only* affect the outcome through the treatment, conditional on any other explanatory variables included in the model.

Relevance can be shown by a "first stage" regression. This is a linear regression of the form

$$T = \alpha_1 + \beta Z + u_1 \tag{1}$$

If the estimate of β, $\hat{\beta}$, is statistically significantly above 0,[10] the instrument is relevant. This statistical significance can be determined by the size of an F statistic for the coefficient; if the F statistic is above 10, the instrument is relevant (Staiger and Stock 1997).

The exclusion restriction makes the distinction between two types of variables important: endogenous variables and exogenous variables. Endogenous variables are variables that obtain their value within the system/model. For instance, T above is endogenous because its value is determined in part by both X and Z. On the other hand, exogenous variables are variables that obtain their value outside of the system/model. For instance, both X and Z above are exogenous because their values are randomly determined, imposed on

[9] Assuming that next week's forecast is independent of this week's forecast.

[10] Or, technically, below 0; the instrument could simply be multiplied by -1, however, to make the sign of $\hat{\beta}$ positive.

the system from the outside. They are neither influenced by T nor Y. Therefore, the exclusion restriction can be restated: the exogenous instrument must only affect the endogenous outcome through the endogenous treatment, conditional on any controls.

One can not prove that an instrument satisfies the exclusion restriction. Instead, one must make a theoretical argument. The argument can be supported by whether the instrument can predict other control variables in the model even when contolling for the treatment. If so, the instrument likely will impact the outcome through not only the treatment, but that control variable as well.

One way to find an instrument is to use a DiD estimation strategy. DiD looks at the differential impacts a variable can have on multiple groups. In this paper, DiD strategies are employed in the cases of tiebreakers. Ties in the NFL standings are broken by certain team metrics. One can observe the impact that these metrics have on the treatment among both 1) teams who are tied, and 2) teams who are not tied. If one controls for both the overall impact of the tiebreaking metrics and whether a group is tied, the difference in the impact of the tiebreaker between the two groups would plausibly only affect the outcome through the endogenous treatment. To reframe this generally, consider that there is some exogenous variable W. Consider that there is another exogenous variable V. One notices that W affects some treatment τ differently as V increases. Then, if one predicts τ with W, V, and $W \times V$, the impact of $W \times V$ is plausibly exogenous due to its two components being controlled for. When referring to DiD estimation, this paper refers to variables like W as calibers, and variables like V as sensitivities. Calibers are metrics that affect different groups differently (like a tiebreaking metric), and sensitivities are variables that represent the extra amount of impact a caliber will have on a team. The DiD terms, where a caliber is multiplied by a sensitivity, may act as an instrument if the treatment is the only channel by which the differential effect applies. I call the term in which the caliber and sensitivity are multiplied, that describes the amount of differential effect, the DiD interaction term.

Instrumental variables can be employed in a statistical technique called two-stage least squares (2SLS) regression. This technique employs another called ordinary least squares (OLS) regression twice. Let $\bar{Z}$[11] be an instrument for the endogenous treatment T, and $\bar{X}$ be a vector of exogenous controls. The first stage OLS regression follows:

$$T = \alpha_2 + \Omega\bar{Z} + \Psi\bar{X} + u_2 \tag{2}$$

Where α_2 is an estimated constant and u_2 is an error term.[12] Now, let $\hat{T}$ be the fitted values for T in the above regression, and Y be the outcome variable. The second stage OLS regression follows:

$$Y = \alpha_3 + \beta\hat{T} + \Pi\bar{X} + u_3 \tag{3}$$

The estimate for β in equation (3) obtained by 2SLS regressions is the estimated causal effect of T on Y. This paper uses 2SLS to investigate causality of past seasons' outcomes on the present season's outcomes.

2.5 Model for the Evolution of Team Success

Consider a general team success metric in season s, S_s (and in season $s-1$, S_{s-1}).

S_s may be modeled in terms of variables determined in past seasons, and changes in the team composition during offseasons. Consider the following function, in which success in season s is simply modeled by success

[11] In this paper, vectors of multiple variables are represented with a bar above their name.

[12] This notation with α_i as an estimated constant and u_i as an error term is used in each regression specification, with their subscript being the number of their equation in the paper.

in season $s-1$:

$$S_s = F(S_{s-1}) \tag{4}$$

This model is plausibly quite informative. Assuming that there is something to team success beyond randomness, information about a team's outcomes in one season should carry information about their outcomes in the next. One can break down the components of information represented by S_{s-1} in terms of a team's quality in that season (TQ_{s-1}), their opponents' quality in that season (OQ_{s-1}), and the *isolated impact* of that season's success metric on the coming season (that is, holding constant both team quality and opponent quality). This isolated impact is the focus of the present study. For instance, consider S_{s-1} to be a team's winning percentage in season $s-1$. This winning percentage could have causal effects on the future through multiple channels, such as draft pick allocations, team perceptions by free agents considering joining the team, and team morale. Let these influences be represented generically as $\bar{C}^S_{s-1}$, with S representing the success metric under use.

Thus, equation (4) can be more accurately represented as

$$S_s = F(TQ_{s-1}, OQ_{s-1}, \bar{C}^S_{s-1}) \tag{5}$$

The above model does not include other aspects to a team's offseason that may have no causal relationship with S_{s-1}. For instance, a team's collective aging could act to their advantage or disadvantage. Generally, as players begin their career, they improve from season to season as they learn from experience and improve conditioning. Then, after reaching a prime age, their value to a team depreciates; this trend is referred to as an "age curve."[13] Teams with equal quality in season $s-1$ may have great differences in their numbers of players on the rising ends of their age curves as opposed to the declining ends of their age curves. Other possible influences on S_s that are independent of S_{s-1} may exist as well, such as a team's number of players on expiring rookie contracts[14]. Let these influences be represented generically as $\bar{I}^S_{s-1}$, with S representing the success metric under use. Adding this to the model in equation (5), we have

$$S_s = F(TQ_{s-1}, OQ_{s-1}, \bar{C}^S_{s-1}, \bar{I}^S_{s-1}) \tag{6}$$

Equation (6) provides a suitable model for team success, but relies on completely theoretical variables – not raw observables. Further, in order to seek the causal effect of past season outcomes on present outcomes, IV strategies are necessary for each treatment. We thus transform the above function into a 2SLS regression model using instrumental variables.

Let $\bar{A}_{s-1}$ be the vector of all measurable quantities from season $s-1$. Then, we can use all observables to proxy equation (6) using a linear regression model:

$$S_s = \alpha_7 + \beta S_{s-1} + \Gamma \bar{A}_{s-1} + u_7 \tag{7}$$

Let $\bar{M}_{s-1}$ be a vector of a subset of measurable quantities from season $s-1$, selected for a specific regression model. Let $\bar{Z}^S_{s-1}$ (where S represents the success metric at hand) be a vector of instruments for S_{s-1}. First, we estimate S_{s-1} using $\bar{Z}^S_{s-1}$ and $\bar{M}_{s-1}$ via ordinary least-squares regression (OLS):

$$S_{s-1} = \alpha_8 + \Theta \bar{Z}^S_{s-1} + \Omega \bar{M}_{s-1} + u_8 \tag{8}$$

[13]For each position (i.e. quarterback, middle linebacker, offensive center), the age curve for each position varies (Schalter 2013; Paine 2019).

[14]Rookie contracts usually underpay relative to the free agency market.

Let $\hat{S}_{s-1}$ be the fitted values from the above regression. We estimate S_s using $\hat{S_{s-1}}$ and $\bar{M}_{s-1}$ for the second stage regression:

$$S_s = \alpha_9 + \beta\hat{S}_{s-1} + \Phi\bar{M}_{s-n} + u_9 \tag{9}$$

As long as $\bar{Z}^S_{s-1}$ is a valid set of instruments for S_{s-1}, the estimate for β represents the causal effect of S_{s-1} on S_s. This is consistent for any success metric treatment, as long as the instrument(s) are unique to the specific treatment. Further, this model developed from equation (4) to equation (9) can be repeated replacing any $s-1$ subscripts with $s-n$ for the nth season in the past. This paper investigates effects from one to six years in the past; n represents integers from one to six. The next section describes each set of treatments, instruments, and controls in detail.

3 Data and Empirical Strategy

3.1 Data

Most of the data employed in this project was obtained from Pro Football Reference (PFR), a sub-group of Sports Reference. Variables used for calculating win probabilities were at a play-level, describing the characteristics of an individual play within an individual game. These are available on PFR only since 1998. On the other hand, all other variables were generated using information about individual games, instead of individual plays; this data was available going further into the past. This paper employs this game-level data beginning in 1993. This is convenient because the first year the league included only seven rounds in its draft was the 1994 draft, for which pick allocation relied on the 1993 season's standings.

3.2 Empirical Strategy Overview

We seek to isolate the causal effects of four different outcomes from past seasons (treatments) on outcomes in the present season. Again, the causal effects under consideration are those relating *solely* to deviations in treatments, not to underlying causes of those treatments, such as past team quality. Each of the treatments have some variation explained by random processes; this randomness can be exploited to identify the causal effects. For the effective wins treatment, a wins-above-expected metric is employed. For the playoff seed treatment, a seeding tiebreaker metric is employed in a DiD approach. For the playoff level reached treatment, another wins-above-expected metric is employed, conditioning on playoff seed. For the draft endowment treatment, another tiebreaker metric, this time for draft pick allocation, is employed in another DiD approach. All of the specifications are detailed in Table 9 at the end of this section. Before detailing each of the specific strategies, a note on time-related exogeneity is required.

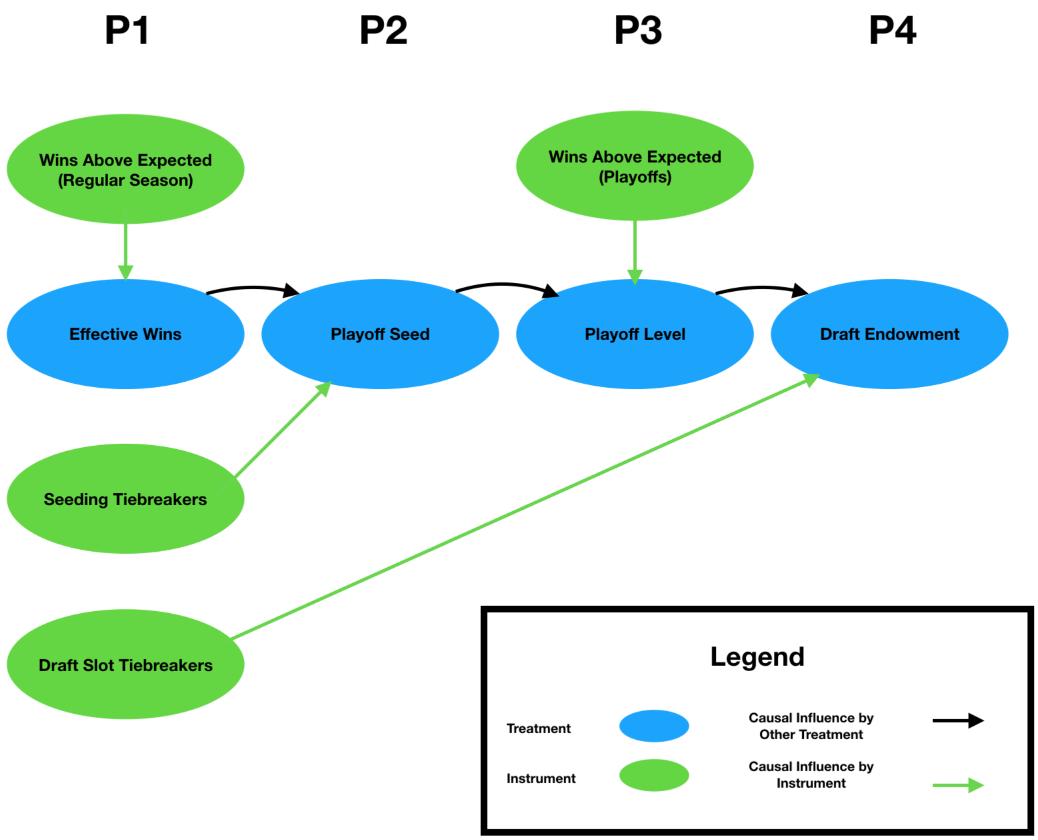
3.3 The Four Phases of NFL Standings

For understanding exogeneity in the below models, it is helpful to define four different phases in the post-season determination of standings metrics. These four phases are:

1. $P1$, when the whistle blows to end the the regular season. Win totals, playoff tiebreakers, and draft pick tiebreakers are determined.
2. $P2$, when playoff seeds are yielded from the win totals and playoff tiebreakers.
3. $P3$, when the postseason concludes. Playoff levels reached and draft groups are determined.
4. $P4$, when the draft order is yielded from the draft groups, win totals, and draft tiebreakers.

In this framework, each of the four treatments are determined at different phases. This can be viewed in Figure 3. As treatments that occur in later phases can be affected by those that occur in earlier phases, these later treatments would need to be considered endogenous in models for the earlier treatments (Angrist and Pischke 2009, 47). On the other hand, when designing a model to identify the causal effect of a later treatment, the others can be employed as exogenous due to their being determined before the treatment at hand. In these scenarios, however, their regression coefficients *can not* be interpreted to be causal. Likewise,

Figure 3: Causal Mechanisms Diagram



the control variables for each regression must neither be determined contemporaneously with the instrument (unless it is a DiD where the caliber and sensitivity are the contemporaneous controls) and treatment nor in the future relative to those two variables. Therefore, for clarity, all variables carry a superscript representing the phase in which they are determined. Of course, any variable determined in a past season relative to another was determined prior to the latter regardless of which phase within each season the two were determined.

Each identification strategy's description includes explanations of how the instrument satisfies the exclusion restriction.

Ideally, a specification would work out that incorporates all four treatments as endogenous variables. However, the partial F-statistics for such a specification[15] become small due to the high collinearity of the four treatments. Therefore, we instead look at each treatment in isolation.

3.4 Identification Strategy for Effective Wins

First, we identify the causal effect of an added effective win on a team's record. As discussed, past wins are highly endogenous when predicting present wins. Here, we isolate a portion of each effective win that is plausibly random. We do this by calculating win probabilities with two minutes remaining in a game, and then subtracting this probability from whether or not the team won. Very frequently, it is tough to tell who will win a game until the final whistle blows – even when there are only two minutes remaining. Examples of random surprises abound (NFL 2018; Kilgore 2019; Maske and Boren 2019). This randomness can be exploited by calculating a team's number of "lucky" win shares throughout the course of a season, and using this exogenous component of the endogenous wins variable to gauge the causal effect of effective wins.

Appendix 7.2.1 includes details regarding the computation of win probabilities with two minutes remaining. The core variables included are score differential, respective team qualities as represented by betting trends about the two teams, and the expected points[16] for the team with possession. This computation produces a win probability for game g in season s, $P_{g,s}$.[17] Then,

$$EffWin_{g,s} - P_{g,s} = WAE_{g,s} \tag{10}$$

is a team's win share above expected given their position at the two minute warning (WAE) for that game. It takes values in the range $(-1, 1)$, with the expectation being 0. Summing these values across a team's 16 game regular season gives the collective wins above expected for a regular season:

$$\sum_{g=1}^{16} WAE_{g,s} = SWAE_s^{P1}$$

As $SWAE_s^{P1}$ captures exogenous variation in season effective wins EW_s^{P1}, we can employ it as an exogenous instrument for the endogenous treatment. Thus, the first-stage model for the treatment EW_s^{P1} is :

$$EW_s^{P1} = \alpha_{11} + \beta SWAE_s^{P1} + u_{11} \tag{11}$$

[15] A specification that includes all treatments as endogenous, instrumented together.

[16] An essential metric used in football analytics (Pattani 2012).

[17] These win probabilities technically occur in a phase earlier than $P1$, but do not enter the actual regression specifications directly. This is likewise the case with the below $EffWin_{g,s}$ (game-level effective win, taking either 0, 0.5, or 1) and $WAE_{g,s}$.

Table 2: Effective Wins First Stage

Panel A: First Stage Results

	Effective Wins^{P1}_{s-1}	Effective Wins^{P1}_{s-2}	Effective Wins^{P1}_{s-3}	Effective Wins^{P1}_{s-4}	Effective Wins^{P1}_{s-5}	Effective Wins^{P1}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Reg. Season WAE^{P1}_{s-n}	0.283***	0.276***	0.255***	0.250***	0.242***	0.238***
	(0.041)	(0.041)	(0.045)	(0.046)	(0.047)	(0.048)
Observations	635	603	571	539	507	475
First stage F statistic	46.5	45.3	32.2	29.2	26.7	24.2

Panel B: First Stage Placebos

	Effective Wins^{P1}_{s-1}	Effective Wins^{P1}_{s-2}	Effective Wins^{P1}_{s-3}	Effective Wins^{P1}_{s-4}	Effective Wins^{P1}_{s-5}	Effective Wins^{P1}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Reg. Season WAE^{P1}_{s}	0.020	-0.000	0.004	-0.036	-0.065*	-0.020
	(0.035)	(0.032)	(0.046)	(0.038)	(0.036)	(0.046)
Observations	665	663	661	657	653	621
First stage F statistic	0.3	0.0	0.0	0.9	3.2	0.2

Panel A: These first stage regressions control for the team's wins above expected in the regular season (which is standardized within sample). The dependent variable is the column's header, the amount of wins (plus $\frac{1}{2}$ times the amount of ties) for the team in the given season (standardized within sample). All variables are for season $s-n$ as denoted in the column header; the regressors are from the same season as the outcome variable. Standard errors, clustered by team, in parentheses.
Panel B: These first stage placebo regressions control for the team's wins above expected in the regular season *this season* (which is standardized within sample). The dependent variable is the column's header, the amount of wins (plus $\frac{1}{2}$ times the amount of ties) for the team *in the given past season* (standardized within sample). Standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

We see the results for this first stage regression in Table 2. Panel A displays the first-stage results, while Panel B displays a first-stage placebo in which we regress *past* values of the treatment (EW^{P1}_{s-n}) on *current* values of $SWAE^{P1}_{s}$.[18]

The large F statistics in Panel A, much larger than the cut-off of 10, verify relevance of $SWAE^{P1}_{s-n}$. This makes sense, as this instrument is simply an exogenous share of the endogenous treatment. The minute F statistics in Panel B provide evidence to support the exclusion restriction as there does not seem to be anything from the treatment in past years correlating with the exogenous component of the treatment this year. Granted, the fifth column placebo regression shows a coefficient statistically significant at a $p < 0.1$ level. However, as the placebo regressions for all years besides $s-5$ show no signs of statistical power, we can assume that the statistical significance for the instrument's term in that regression to be due to random noise; if there truly were an effect here, we would expect it to be at least *somewhat* picked up in seasons $s-4$ and/or $s-6$. Furthermore, we would expect 1 in 10 random regressions to flare a false positive, as in this case.

[18]For all first-stage regressions in which the treatment, instrument, and all controls are from the same season, the different columns showing $s-n$ for different values of n just show the loss of power as seasons are lost from the sample (due to fewer instances of seasons multiple years back from the current one). This is *not* the case for the first-stage placebos, in which past treatments are run on present instruments and controls, and also *not* the case for the results of IV regressions later in the paper, where present outcomes are run on past treatments, instruments, and controls.

Table 3: Testing Exclusion Restriction for Season Wins Above Expected on Later Treatments

Panel A: Playoff Seeds	Seed^{P2}_{s-1}	Seed^{P2}_{s-2}	Seed^{P2}_{s-3}	Seed^{P2}_{s-4}	Seed^{P2}_{s-5}	Seed^{P2}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Reg. Season WAE^{P1}_{s-n}	0.008	0.009	0.010	0.004	0.011	0.007
	(0.029)	(0.029)	(0.029)	(0.027)	(0.028)	(0.029)
Observations	635	603	571	539	507	475
First stage F statistic	0.1	0.1	0.1	0.0	0.2	0.1
Panel B: Playoff Levels	Level^{P3}_{s-1}	Level^{P3}_{s-2}	Level^{P3}_{s-3}	Level^{P3}_{s-4}	Level^{P3}_{s-5}	Level^{P3}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Reg. Season WAE^{P1}_{s-n}	-0.016	-0.017	-0.013	-0.016	-0.010	-0.014
	(0.029)	(0.028)	(0.029)	(0.026)	(0.027)	(0.028)
Observations	635	603	571	539	507	475
First stage F statistic	0.3	0.4	0.2	0.4	0.1	0.2
Panel C: Draft Endow.	DE^{P4}_{s-1}	DE^{P4}_{s-2}	DE^{P4}_{s-3}	DE^{P4}_{s-4}	DE^{P4}_{s-5}	DE^{P4}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Reg. Season WAE^{P1}_{s-n}	-0.014	-0.016	-0.016	-0.017	-0.019	-0.022
	(0.015)	(0.015)	(0.015)	(0.015)	(0.016)	(0.017)
Observations	635	603	571	539	507	475
First stage F statistic	0.9	1.1	1.1	1.3	1.4	1.7

Each of these regressions control for the team's wins above expected in the regular season (which is standardized within sample). The dependent variable is the column's header within the individual panel, each of which are described at the end of these notes. The regressions also control for regular season effective wins (treated continuously), which is the treatment for which this instrument is usually applied. All variables are for season $s-n$ as denoted in the column header; the regressors are from the same season as the outcome variable. Standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Dependent Variables for Each Panel

Panel A: The playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample).

Panel B: The playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample).

Panel C: The draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample).

The key to passing the exclusion restriction here is simply that $SWAE^{P1}_{s-n}$ only impacts outcomes in season s through EW^{P1}_{s-n}. This could be violated if the win probabilities calculated were flawed, not adequately taking into account aspects of teams that would be consistent from year to year, such as certain teams retaining coaches skilled in end-of-game strategy or quarterbacks who perform well under pressure. Some robustness checks are shown in Appendix 7.2.2 to support the argument that these sorts of channels are not present, instead adequately captured in the win probabilities.

Further, one can specifically examine whether the other treatments that occur in phases following effective wins –playoff seed ($Seed^{P2}_{s-n}$), playoff level ($Level^{P3}_{s-n}$), and draft endowment (DE^{P4}_{s-n})) – act as additional channels by which $SWAE^{P1}_{s-n}$ impacts outcomes in season s besides through EW^{P1}_{s-n}. If one slides EW^{P1}_{s-n} to the right hand side of equation (11) as a control, and replaces it with the other treatments, one can test whether this violation of the exclusion restriction seems to exist. Table 3 displays the results of such regressions, and the lack of statistical significance on any of the terms supports the claim that $SWAE^{P1}_{s-n}$ is exogenous in the model.

3.5 Identification Strategy for Playoff Seed

Next, I show how to instrument playoff seeds with their tiebreaker. Here, I employ a DiD strategy utilizing the postseason tiebreakers.

The NFL's tiebreaking procedures for playoff seeding (NFL 2019) are somewhat convoluted, as ties can arise for 1) which team wins each division, 2) which teams qualify for the wild card slots, and 3) the order of teams that have made the playoffs. A detailed breakdown of the seeding tiebreaker process is in Appendix 7.1.7.

In order to quantify the impact of an improved playoff seed in season $s-n$ on success in season s, I consider the differential effect some of these tiebreaking metrics have on the seeds of teams tied and in the playoff hunt compared to the seeds of teams not in such ties. That is, we define a tiebreaking metric as the caliber for a DiD specification and a variable representing a team's likelihood to be impacted by that tie as a sensitivity.

The tiebreaking process uses multiple metrics, but a select few can be combined into one term to provide strength in the first stage. From 2003 to 2018,[19] 77% of tiebreaking instances have employed one of four tiebreakers. Using Stata's *alpha* command, I generate a tiebreaking index combining these four tiebreaking metrics.[20] This index, referred to as STB_s^{P1}, acts as the DiD term's caliber component.

Next, I generate a sensitivity variable taking three values:

- 0 if a team has fewer than 9 effective wins, or has 9 or more effective wins but is neither tied within their conference nor their division.
- 1 if a team has at least 9 effective wins and is tied with at least one other team within their conference.
- 2 if a team has at least 9 effective wins and is tied with at least one other team within their division (which also implies that they are tied with at least one other team within their conference).

This variable, which I employ continuously, approximates the added impact the DiD caliber has on a team's seeding. If they are neither tied within their conference nor division, or have fewer wins than are likely required to make the playoffs, the tiebreaking metrics only affect the seed through non-tiebreaking means. On the other hand, if they are tied with sufficient wins to plausibly be in the playoff hunt, the tiebreaking metrics affect the seed both through those aforementioned non-tiebreaking means *as well as*[21] through the tiebreaking mechanism. This influence is emphasized when the team is tied within their division because divisional tiebreakers can have much larger effects on seed than tiebreakers between conference-non-divisional opponents.[22] Let this sensitivity be represented as $Tied_s^{P1}$.

The first stage specification for playoff seed therefore includes the DiD interaction between this tiebreaker

[19]PFR lists the utilized tiebreaker for each team's seeding in their standings data going back to 2003, but not further.

[20]These four metrics are a team's win percentage against divisional opponents, win percentage against conference opponents, win percentage against teams with which they are tied within their division, and win percentage against teams with which they are tied within their conference. Note that two require the team to be tied, but two do not. For the two requiring that teams be tied, I impute missing values with the population mean of 0.5 (each game must have either a winner and a loser or two tied clubs). These are four of the top five tiebreakers. The fifth, win percentage in common games, is a much more difficult variable to acquire or calculate as it pertains to pairs of teams, not individual teams.

[21]Except in the case where their 9 or more effective wins does prove sufficient for playoff contention.

[22]For example: in 2018, the Kansas City Chiefs and the Los Angeles Chargers were tied in the AFC West. The Chiefs won the divisional tiebreaker, granting them the first overall seed; the Chargers, losing the tiebreaker, slid all the way down to the best Wild Card slot, the fifth seed.

sensitivity and the tiebreaking caliber. It also, following the DiD framework, controls for the sensitivity and the caliber on their own. In addition, the regression controls for a selection of variables that are listed in the rightmost column of Table 9; let these controls be represented by the vector $\bar{V}_{s-n}^{P1}$.

Thus, the first-stage model for $Seed_s^{P2}$ is:

$$Seed_s^{P2} = \alpha_{12} + \beta(STB_s^{P1} \times Tied_s^{P1}) + \gamma_1 STB_s^{P1} + \gamma_2 Tied_s^{P1} + \Gamma \bar{V}_s^{P1} + u_{12} \tag{12}$$

We see the results in Table 4. As before, Panel A displays the first-stage results, while Panel B displays a first-stage placebo in which we regress *past* values of the treatment ($Seed_{s-n}$) on *current* values of the regressors. The first stage results are highly statistically significant and oriented positively, which was the expected direction. This verifies the relevance of the instrument. Furthermore, the placebo regressions fail to display any sort of statistical significance, supporting the claim that the instrument satisfies the exclusion restriction. The specification carries no power predicting past seeds, ruling out the exogenous instrument having any carryover correlation (conditional on the controls) with the team's prior seeds.

This DiD specification provides conditionally exogenous variation on the treatment, which allows one to interpret the treatment's regression coefficients in the second stage of the IV regressions as causal. Controlling for the sensitivity and caliber on their own, the interaction between the two describes the random differential impact of the caliber on a team's seed. There is no reason to expect that this differential impact would also exist for other variables *besides* through playoff seed. The differential impact between teams 1) not in the playoff hunt, or not tied, 2) teams tied with conference peers in the playoff hunt, and 3) teams tied with divisional peers in the playoff hunt should only exist causally through the team's appointed seed. One possible violation would be that tiebreakers in a sense inflate a team's worth for the playoff seed to which they are assigned. If so, this instrument could negatively impact present outcomes through the past playoff level, controlling for the playoff seed. However, Panel A in Table 5 suggests this is not the case. Sliding $Seed_s^{P2}$ to the right hand side of the equation and replacing it with $Level_s^{P3}$ brings no power on the instrument's coefficient. One could also imagine that due to the fact that these tiebreakers can also act as a rare tiebreaker for draft order, there is additional influence on future seasons by this instrument through the draft tiebreaking procedure. However, the analagous exclusion restriction test with DE_s^{P4} employed as the treatment instead of $Level_s^{P3}$ suggests that this minor draft tiebreaking mechanism actually carries no weight in the data. This evidence supports the claim that the only reason the differential impact of the tiebreakers may impact future outcomes is through their tiebreaking action in the given season.

3.6 Identification Strategy for Playoff Level Reached

Next, I show how to instrument playoff levels with an analog to the regular season wins above expected variable ($SWAE_s^{P1}$) used as the instrument for effective wins.

I define $PWAE_s^{P3}$ analogously to $SWAE_s^{P1}$; a formal definition is in Appendix 7.2.3. Two details regarding this variable are important: 1) any team that did not make the playoffs obtains a $PWAE_s^{P3}$ of 0, which is the expectation of the variable for all teams, and 2) teams with a top 2 seed within their conference automatically obtains a single-game $WAE_{18,s} = 0$[23] because they observe a first-round bye. Thus, by construction, $PWAE_s^{P3}$ for teams with a first-round bye is restricted to a different range than it is for teams playing wild card weekend. More details noting this distinction between $PWAE_s^{P3}$ for teams with a

[23]This represents the win share above expected for a playoff game in the Wild Card round, which is technically week 18 of the season.

Table 4: Playoff Seeds First Stage

Panel A: First Stage Results

	Seed^{P2}_{s-1}	Seed^{P2}_{s-2}	Seed^{P2}_{s-3}	Seed^{P2}_{s-4}	Seed^{P2}_{s-5}	Seed^{P2}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Seeding Tiebreaker $\text{Index}^{P1}_{s-n}\times$ Tied in Playoff Hunt^{P1}_{s-n}	0.171***	0.167***	0.163***	0.162***	0.164***	0.164***
	(0.026)	(0.027)	(0.028)	(0.029)	(0.027)	(0.027)
Observations	781	749	717	685	653	621
First stage F statistic	43.8	38.5	33.8	31.9	36.3	36.7

Panel B: First Stage Placebos

	Seed^{P2}_{s-1}	Seed^{P2}_{s-2}	Seed^{P2}_{s-3}	Seed^{P2}_{s-4}	Seed^{P2}_{s-5}	Seed^{P2}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Seeding Tiebreaker $\text{Index}^{P1}_{s}\times$ Tied in Playoff Hunt^{P1}_{s}	-0.065	-0.017	-0.026	-0.029	-0.030	0.005
	(0.046)	(0.060)	(0.055)	(0.055)	(0.069)	(0.061)
Observations	781	749	717	685	653	621
First stage F statistic	2.0	0.1	0.2	0.3	0.2	0.0

Panel A: These first stage regressions control for the tiebreaking index defined above, the three-level variable representing how much a team will be impacted by a tiebreaker, and the interaction between those two terms. All three of these variables are standardized within sample. The dependent variable is the column's header, the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The regressions also control for strength of schedule and a comprehensive control for regular season effective wins, which is detailed in a footnote above. All variables are for season $s - n$ as denoted in the column header; the regressors are from the same season as the outcome variable. Standard errors, clustered by team, in parentheses. **Panel B:** These first stage placebo regressions control for the tiebreaking index defined above, the three-level variable representing how much a team will be impacted by a tiebreaker, and the interaction between those two terms. All three of these variables are standardized within sample, and *are from the current season*. The dependent variable is the column's header, the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). This dependent variable *is from season* $s - n$. The regressions also control for, *from the current season*, strength of schedule and a comprehensive control for regular season effective wins, which is detailed in a footnote above. Standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 5: Testing Exclusion Restriction for Seeding Tiebreaker Difference-in-Differences on Later Treatments

Panel A: Playoff Levels	Level^{P3}_{s-1}	Level^{P3}_{s-2}	Level^{P3}_{s-3}	Level^{P3}_{s-4}	Level^{P3}_{s-5}	Level^{P3}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Seeding Tiebreaker Index^{P1}_{s-n} × Tied in Playoff Hunt^{P1}_{s-n}	-0.018	-0.020	-0.011	-0.013	-0.014	-0.015
	(0.021)	(0.022)	(0.022)	(0.024)	(0.024)	(0.024)
Observations	781	749	717	685	653	621
First stage F statistic	0.8	0.9	0.2	0.3	0.4	0.4
Panel B: Draft Endow.	DE^{P4}_{s-1}	DE^{P4}_{s-2}	DE^{P4}_{s-3}	DE^{P4}_{s-4}	DE^{P4}_{s-5}	DE^{P4}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Seeding Tiebreaker Index^{P1}_{s-n} × Tied in Playoff Hunt^{P1}_{s-n}	-0.006	-0.009	-0.007	-0.005	-0.001	-0.002
	(0.014)	(0.015)	(0.014)	(0.015)	(0.014)	(0.015)
Observations	781	749	717	685	653	621
First stage F statistic	0.2	0.3	0.2	0.1	0.0	0.0

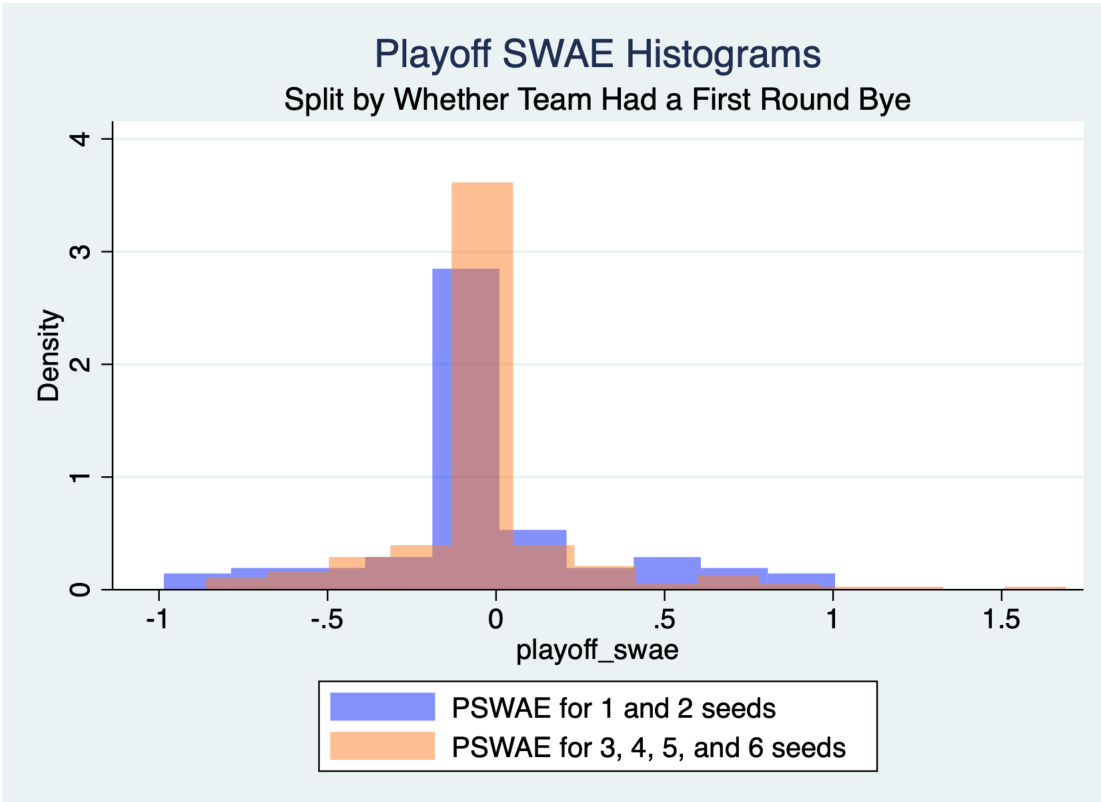
Each of these first stage regressions control for the tiebreaking index defined above, the three-level variable representing how much a team will be impacted by a tiebreaker, and the interaction between those two terms. All three of these variables are standardized within sample. The dependent variable is the column's header within the individual panel, each of which are described at the end of these notes. The regressions also control for strength of schedule and a comprehensive control for regular season effective wins, which is detailed in a footnote above. The regressions finally also control for playoff seed (treated continuously), which is the treatment for which this instrument is usually applied. All variables are for season $s-n$ as denoted in the column header; the regressors are from the same season as the outcome variable. Standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Dependent Variables for Each Panel

Panel A: The playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample).

Panel B: The draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample).

Figure 4: Histograms of Playoff Wins Above Expected for Teams With & Without a First-Round Bye



first-round bye and those playing during the Wild Card round are in Appendix 7.2.3. Figure 4 displays two overlapping histograms for $PWAE_s^{P3}$ 1) among teams with a first-round bye and 2) among teams playing in the Wild Card round. Note that the histogram for teams that played in the Wild Card round is skewed right compared to the quite symmetric curve for teams that had a first-round bye.

Accordingly, I employ two excluded instruments for the playoff level a team reaches: $PWAE_s^{P3}$ interacted with a dummy[24] for whether a team played wild card weekend, and $PWAE_s^{P3}$ interacted with a dummy for whether a team had a first-round bye.[25] This allows one to proxy playoff level using the success of teams who end up having more luck during a string of playoff games at the end of the year (or, conversely, less luck during a game they lose).

These regressions also control for both earlier treatments: effective wins (treated continuously as EW_s^{P1}) and seed (included as dummies for each level, in the vector $\bar{Seed}_s^{P2}$). Let these controls be represented below by the vector $\bar{W}_{s-n}^{P1,P2}$.

Let a dummy for whether a team played wild card weekend be represented as $PlayedWC_s^{P2}$. Let a dummy

[24]For readers unaware, "dummy variables," otherwise known as "indicator variables," are variables that take two values (usually 1 and 0), splitting the data into two groups: those that satisfy a condition, and those that do not.

[25]As $PWAE_s^{P3} = 0$ for non-playoff teams, the constant term in the regression essentially acts as the third category of $PWAE_s^{P3}$'s effect.

for whether a team had a first-round bye be represented as $ByeWC_s^{P2}$. Then, the first-stage specification is:

$$Level_s^{P3} = \alpha_{13} + \beta_1(PWAE_s^{P3} \times ByeWC_s^{P2}) + \beta_2(PWAE_s^{P3} \times PlayedWC_s^{P2}) + \Theta\bar{W}_{s-n}^{P1,P2} + u_{13} \quad (13)$$

Table 6 displays the results. As in the prior first-stage tables, Panel A displays the first-stage results and Panel B displays the first-stage placebo in which we regress $Seed_{s-n}$ on *current* values of the regressors in season s. Both instruments carry positive and highly statistically significant coefficients, satisfying the relevance assumption. Additionally, as for the identification strategies for effective wins and playoff seeds, the placebo regressions fail to oppose the exclusion restriction being broken. Technically, there is a statistically significant coefficient on the first instrument for playoff level three years in the past, but this is presumably solely due to noise in the data – this is the only season for which there is a nearly statistically significant effect.

As with the case of $SWAE_s^{P1}$, $PSWAE_s^{P3}$ extracts plausibly exogenous variation from the treatment due to the randomness at the ends of games. Due to conditioning on effective wins and seeds, and looking at the effects of $PSWAE_s^{P3}$ solely on the two groups of playoff teams (those with a bye and those without), this specification isolates the difference between a team "luckily" advancing to the next round or not. Thus, the less-likely teams to advance are randomly placed into a higher treatment group, whereas those more-likely to advance are randomly placed into a lower treatment group. One must assume when using this model that, as in the case of effective wins, the win probabilities used to calculate $WAE_{p,s}$ values for the playoff games are reliable, and not biased against teams who for some repeatable reason are able to have more success than one would expect at the end of a game. The same robustness checks used for effective wins that look at how $WAE_{p,s}$ vary by coaches and quarterbacks apply again here, and are in Appendix 7.2.2.

This treatment (and its instrument) is determined in $P3$, the second to last phase. Accordingly, the only other treatment that one can test the exclusion restriction with is draft endowment. Table 7 displays this specification, where $Level_s^{P3}$ slides to the right hand side of equation (13) and DE_s^{P4} replaces it as the dependent variable. Here again, the instruments fail to carry statistically significant coefficients predicting draft endowment. Therefore, one can be confident that the instruments do not affect future outcomes through draft endowment, conditional on playoff level.

3.7 Identification Strategy for Draft Endowment

Next, I show how to instrument for perceived draft endowments with another DiD approach utilizing tiebreakers. To do so, some details regarding the "draft endowment" variable must be addressed.

3.7.1 The Perceived Draft Endowment Variable

The pick order in each round follows the inverse of the *prior year's* standings;[26] the definition of the standings has varied over time (details are in Appendix 7.1.3-7.1.6). Due to many teams ending the season with the same record, the draft tiebreakers play an important role in the allocation of picks. In addition to the tiebreaking metrics, which are listed in Appendix 7.1.5, the league has a special rule to cycle teams through the group of tied teams. Each round, the team who "won" a tiebreaker is sent to the back of the group of tied teams, while all others slide up. An illustration of this with three teams tied is in Appendix 7.1.6.

[26] Recall, again, that DE_s is earned in season s, but technically applies to the team's draft capital in season $s+1$'s draft.

Table 6: Playoff Levels First Stage

Panel A: First Stage Results

	Level^{P3}_{s-1}	Level^{P3}_{s-2}	Level^{P3}_{s-3}	Level^{P3}_{s-4}	Level^{P3}_{s-5}	Level^{P3}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff WAE among 1 & 2 seeds^{P3}_{s-n}	0.116***	0.114***	0.109***	0.107***	0.098***	0.098***
	(0.024)	(0.023)	(0.019)	(0.019)	(0.018)	(0.019)
Playoff WAE among 3 to 6 seeds^{P3}_{s-n}	0.183***	0.187***	0.186***	0.181***	0.184***	0.184***
	(0.033)	(0.032)	(0.031)	(0.032)	(0.032)	(0.034)
Observations	665	663	661	657	653	621
FS F stat for 1 & 2 seeds	24.0	24.5	33.5	33.0	28.9	27.4
FS F stat for 3 to 6 seeds	31.5	35.0	35.1	31.7	32.1	29.9

Panel B: First Stage Placebos

	Level^{P3}_{s-1}	Level^{P3}_{s-2}	Level^{P3}_{s-3}	Level^{P3}_{s-4}	Level^{P3}_{s-5}	Level^{P3}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff WAE among 1 & 2 seeds^{P3}_{s}	0.011	0.061	0.081**	-0.034	0.000	-0.018
	(0.021)	(0.065)	(0.035)	(0.049)	(0.057)	(0.023)
Playoff WAE among 3 to 6 seeds^{P3}_{s}	0.074	-0.043	-0.005	0.059	-0.033	0.007
	(0.048)	(0.040)	(0.026)	(0.036)	(0.040)	(0.026)
Observations	665	663	661	657	653	621
FS F stat for 1 & 2 seeds	0.3	0.9	5.3	0.5	0.0	0.6
FS F stat for 3 to 6 seeds	2.4	1.1	0.0	2.6	0.7	0.1

Panel A: These first stage regressions control for two to-be-instruments (both standardized within sample): a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, and their playoff wins above expected interacted with a dummy for whether a team had a first-round bye. The dependent variable is the column's header, the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The regressions also control for dummies for each playoff seed and a comprehensive control for regular season effective wins, which is detailed in a footnote above. All variables are for season $s-n$ as denoted in the column header; the regressors are from the same season as the outcome variable. Standard errors, clustered by team, in parentheses. **Panel B:** These first stage placebo regressions control for the two to-be-excluded-instruments: a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, and their playoff wins above expected interacted with a dummy for whether a team had a first-round bye. Both of these variables are standardized within sample, and *are from the current season*. The dependent variable is the column's header, the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). This dependent variable *is from season* $s-n$. The regressions also control for, *from the current season*, dummies for each playoff seed and a comprehensive control for regular season effective wins, which is detailed in a footnote above. Standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 7: Testing Exclusion Restriction for Playoff Wins Above Expected on Draft Endowment

Draft Endowment	DE^{P4}_{s-1}	DE^{P4}_{s-2}	DE^{P4}_{s-3}	DE^{P4}_{s-4}	DE^{P4}_{s-5}	DE^{P4}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff WAE among 1 & 2 seeds^{P3}_{s-n}	0.008	0.011	0.017	0.017	0.013	0.013
	(0.014)	(0.015)	(0.013)	(0.013)	(0.014)	(0.014)
Playoff WAE among 3 to 6 seeds^{P3}_{s-n}	0.011	0.012	0.013	0.012	0.014	0.017
	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)
Observations	665	663	661	657	653	621
FS F stat for 1 & 2 seeds	0.3	0.5	1.6	1.7	0.9	0.9
FS F stat for 3 to 6 seeds	0.9	1.2	1.3	1.0	1.3	1.9

Each of these first stage regressions control for two to-be-excluded-instruments (both standardized within sample): a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, and their playoff wins above expected interacted with a dummy for whether a team had a first-round bye. The dependent variable is the column's header, the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The regressions also control for regular season effective wins (treated continuously) and dummies for each playoff seed. The regressions finally also control for playoff level (treated continuously), which is the treatment for which this instrument is usually applied. All variables are for season $s - n$ as denoted in the column header; the regressors are from the same season as the outcome variable. Standard errors, clustered by team, in parentheses. Standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Accordingly, there is significant nuance to the effect of tiebreakers on draft pick allocation. In fact, this cycling of teams would lead to an automatic violation of the exclusion restriction if the chosen coding of the draft endowment variable only looked at first round picks. Many teams who "win" the first-round tiebreaker end up "losing" the second-round tiebreaker, and so the differential effect of the tiebreaker on first round picks would inherently also impact future outcomes via its opposite differential impact on later-round picks.

In order to overcome this nuance, I employ a valuation curve of draft pick value estimated by Massey and Thaler (2013).[27] Figure 5 displays this curve. Figure 6 displays the pick values sorted by number *within their round*, stacking these values to display the perceived values of the full portfolios for a team in a given draft slot.[28] More details on the specifics of mapping pick positions to pick value are discussed in Appendix 7.2.7.

An important detail to note on the above figures is the steep drop-off in perceived pick value earlier on in the draft compared to later on. This leads to a differential impact of the tiebreakers on teams with high draft picks within each round and teams with low draft picks within each round. To lose a tiebreaker going from having the first overall pick to having the second overall pick leads to a much steeper drop-off in value than going from having the twentieth overall pick to having the twenty-first. This is important for the DiD sensitivity term.

[27] Their paper analyzed the revealed preferences of NFL teams trading draft picks. As there is an open market for draft pick trading (for picks in drafts within three years), they were able to estimate the relative values of each pick to the first overall pick *as revealed by teams*. That is, the curve fits the agents' valuations of picks, not the theoretically true surplus value of owning a pick, which Massey and Thaler argued fit a much different-looking curve. For the revealed preference curve, they estimated a Weibull distribution to fit their data. For this study, I use their distribution to calculate the values of all 7 picks a team is assigned in a given draft, and then sum the values. Further details on this curve are in Appendix 7.2.5.

[28] These are average values for the nth pick of a round. The exact pick per draft varies due to compensatory picks, expansionary picks, or picks suspended due to rule breaking or use in the supplemental draft. That is, the fifth pick of the fourth round could be a different number going from one season to the next.

Figure 5: Massey and Thaler's Draft Pick Value Curve

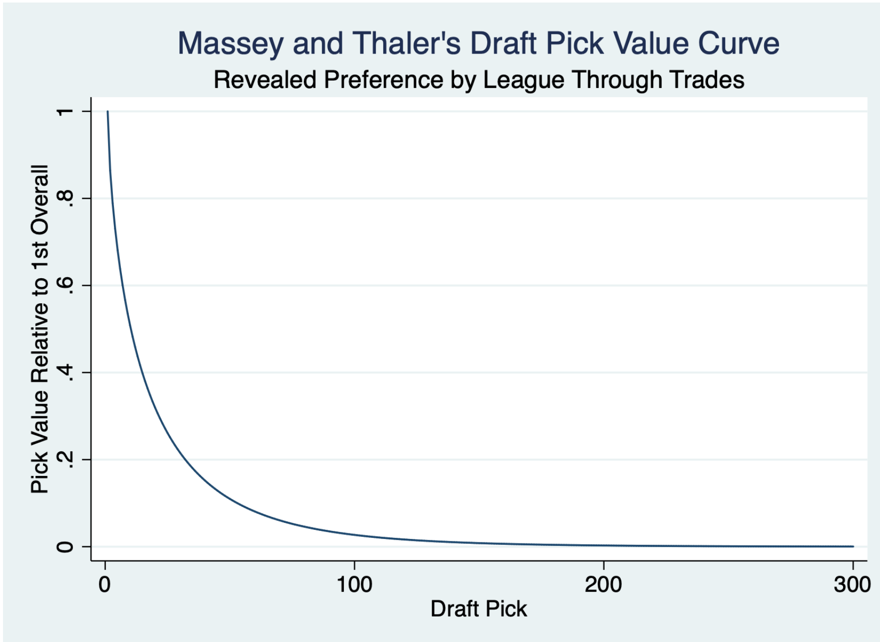
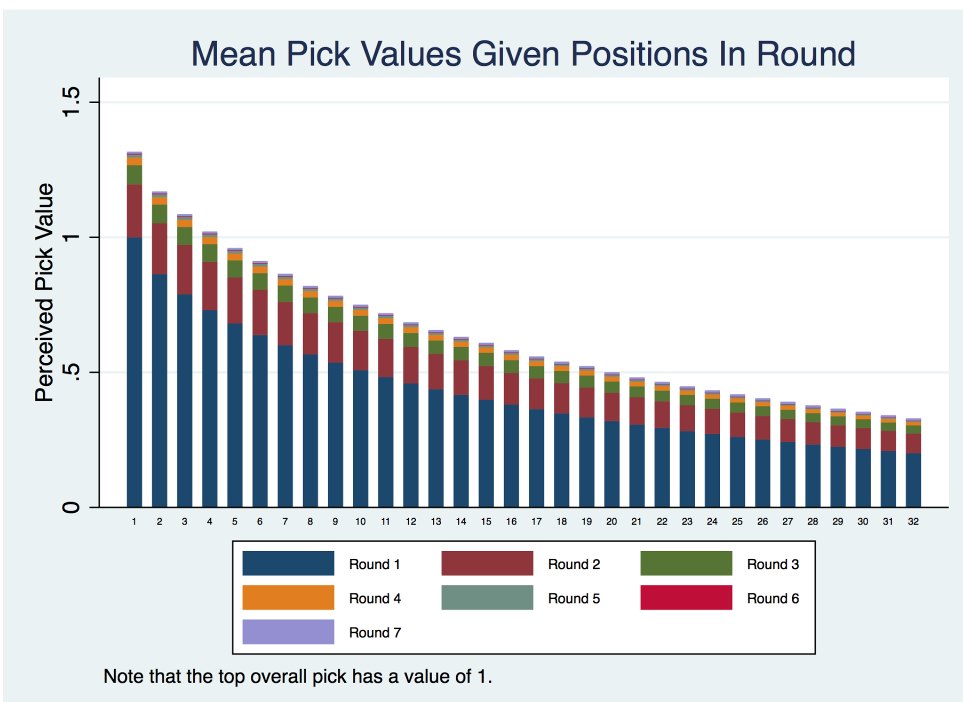


Figure 6: Average Draft Pick Values by Round Position



3.7.2 Draft Endowment's Instrument and Model

The draft tiebreakers provide an opportunity to employ a DiD design.

Most ties in draft order are broken by the first tiebreaker on the list, strength of schedule. Using only this variable as the DiD caliber carries enough power for the first stage, and allows for simpler consideration of the exclusion restriction. To provide even more support for the model's satisfying the exclusion restriction, I employ a corrected strength-of-schedule term that removes certain endogenous components, which are detailed in Appendix 7.2.8. I represent this DiD caliber as $CorrSOS_s^{P1}$.

For the DiD design's sensitivity component, I create an index using Stata's *alpha* command composed of 1) the number of teams with the team's record within their draft group (including the team), 2) an indicator of whether they are tied within their draft group at all, and 3) effective wins (multiplied by negative 1 to orient the variable properly, with weaker teams getting affected more by the tiebreakers). I refer to this sensitivity as the "tie impact index," and represent it as TII_s^{P3}. The three values combine to represent the likely sensitivity of a team to the differential impact of $CorrSOS_s^{P1}$ through its tiebreaking mechanism.

Along with the DiD caliber $CorrSOS_s^{P1}$, the DiD sensitivity, TII_s^{P3} and the DiD interaction that multiplies them together, the specification for draft endowment includes the controls listed in the rightmost column of Table 9. Let these controls be represented by the vector $\bar{Q}_{s-n}^{P1}$.

Then, the first-stage specification is:

$$DE_s = \alpha_{14} + \beta(CorrSOS_s^{P1} \times TII_s^{P3}) + \lambda_1 CorrSOS_s^{P1} + \lambda_2 TII_s^{P3} + \Lambda\bar{Q}_{s-n}^{P1} + u_{14} \quad (14)$$

Table 8 displays the results, with Panel A displaying the first-stage results and Panel B displays the first-stage placebo in which *past* values of the treatment (DE_{s-n}) are regressed on *current* values of the regressors. Panel A verifies strong relevance of the instrument, with F statistics on the DiD interaction well above the cut-off of 10. The model also passes the test of the first-stage placebo, with the present instrument carrying no statistical power predicting past draft endowments. This rules out the idea that the differential effect of the tiebreaker in one season could be consistent across multiple years going into the past, which would violate the exclusion restriction.

As draft endowment is the final outcome to be determined, one can not check the exclusion restriction by checking whether the instrument has power predicting other treatments conditional on draft endowment. Instead, the theoretical argument, along with the successful placebo test, will need to suffice. In order for the instrument to satisfy the exclusion restriction, the differential effect of corrected strength of schedule on teams more or less likely to be impacted by the tiebreaker must not impact future outcomes through any channels but draft endowment. Because season effective wins are included in the DiD sensitivity term, it must be true that strength of schedule impacts a teams' win-loss records equally regardless of how good the team is. There is no reason to believe this not to be the case. Even more so, it is difficult to think of an argument for why teams that happen to end up tied with a peer would be more or less impacted by strength of schedule than teams that do not end up tied. Granted, more ties in standings occur on average for win totals nearer the mean of 8 (see Appendix 7.2.9 for a histogram of effective wins). However, this concern is identical to the above concern regarding the potential heterogeneity of strength of schedule's effect on teams depending on team quality. Again, there is no obvious reason to expect this heterogeneity would exist. Therefore, one can expect that this DiD instrument for draft endowment satisfies the exclusion restriction.

Table 8: Draft Endowment First Stage

Panel A: First Stage Results

	DE^{P4}_{s-1}	DE^{P4}_{s-2}	DE^{P4}_{s-3}	DE^{P4}_{s-4}	DE^{P4}_{s-5}	DE^{P4}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
$\text{CorrSOS}^{P1}_{s-n}\times$ Tie Impact Index^{P3}_{s-n}	0.605***	0.587***	0.575***	0.565***	0.549***	0.504***
	(0.090)	(0.093)	(0.095)	(0.100)	(0.101)	(0.102)
Observations	781	749	717	685	653	621
First stage F statistic	45.3	40.1	36.4	31.8	29.3	24.4

Panel B: First Stage Placebos

	DE^{P4}_{s-1}	DE^{P4}_{s-2}	DE^{P4}_{s-3}	DE^{P4}_{s-4}	DE^{P4}_{s-5}	DE^{P4}_{s-6}
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
$\text{CorrSOS}^{P1}_{s}\times$ Tie Impact Index^{P3}_{s}	0.061	-1.024	-0.720	-1.003	-1.018	-0.419
	(0.529)	(0.705)	(0.556)	(0.739)	(0.690)	(0.884)
Observations	781	749	717	685	653	621
First stage F statistic	0.0	2.1	1.7	1.8	2.2	0.2

Panel A: These first stage regressions control for the corrected strength of schedule as defined above, the tie impact index as defined above, and the interaction between those two terms. All three of these variables are standardized within sample. The dependent variable is the column's header, the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The regressions also control for the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in a footnote earlier in the paper. All variables are for season $s-n$ as denoted in the column header; the regressors are from the same season as the outcome variable. Standard errors, clustered by team, in parentheses. **Panel B:** These first stage placebo regressions control for the corrected strength of schedule as defined above, the tie impact index as defined above, and the interaction between those two terms. All three of these variables are standardized within sample. All three of these variables are standardized within sample, and *are from the current season.* The dependent variable is the column's header, the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). This dependent variable *is from season $s-n$.* The regressions also control for the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in a footnote earlier in the paper. All of these controls are *from the current season.* Standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

3.8 Outcome Variables

Causal effects are estimated for each of the four treatments on eight different outcome variables in season s. Three of them are the present's effective wins, playoff seed attained, and playoff level reached. The other five are dummies for whether the team advances to each of the five playoff rounds (at least; for example, a Super Bowl winner takes 1 for each of these five outcomes).

3.9 Traits of All Regressions

For interpretability, I code each of the four treatments (as well as the outcomes) such that they each increase with increasing team success in the variable's season. Therefore, negative coefficients on a past treatment (which is estimating a present outcome) imply that if the team was perceived as strong in the prior season, they are expected to have a negative effect on their present performance. This only really gets confusing with the draft endowment, where intuition would suggest that it is better to get more picks...however, although this is true, it is generally evidence that the team is worse. The coding of the playoff seed and playoff level variables are in Appendix 7.2.4. After flipping signs to the proper direction, I standardize[29] each of the treatments within season for interpretability of their coefficients in regressions. Furthermore, I standardize the instruments within the sample. Finally, I standardize the outcomes within the sample.[30] I cluster standard errors at the franchise level. As a reminder, due to the play-level data requirement for calculating win probabilities, the specifications for the treatments EW_s^{P1} and $Level_s^{P3}$ only use data from 1998 until the present. On the other hand, the specifications for the treatments $Seed_s^{P2}$ and DE_s^{P4} use data going back to 1993; hence the differences in sample size between the specifications.

3.10 Correlation and Reduced Form Regressions

The results in Section 3 summarize regressions run in three forms owing to the above identification strategies. The third, the IV form, was already presented in Section 2. To illustrate the other two forms, let T represent a treatment, Y represent an outcome, $\bar{Z}$ represent a vector of instruments,[31] and $\bar{W}$ represent a vector of control variables.

The first form is a correlation regression, which estimates the *predictive* effect of the treatment on the outcome (χ below):

$$Y = \alpha_{15} + \chi T + \Upsilon W + u_{15} \tag{15}$$

The second form is a reduced form regression, which estimates the *predictive* effect (ξ below) of the instrument on the outcome when the treatment is ignored:

$$Y = \alpha_{16} + \xi Z + \Xi W + u_{16} \tag{16}$$

The next section presents the results of these regressions.

[29] Throughout this paper, when I say I "standardize" a variable, I mean that I am standardizing the variable to have a mean of 0 and a variance of 1.

[30] Further, in the case of a DiD instrument, I standardize both the caliber and the sensitivity within the sample as well (after the interaction has already been computed).

[31] In the case of DiD strategies, Z is only the DiD interaction; the sensitivity and caliber are considered to be controls.

Table 9: Specifications Overview

Outcomes	Treatments	Instruments	Controls
EW_s^{P1}, $Level_s^{P3}$, $Seed_s^{P2}$, MP_s^{P2}, $MDiv_s^{P3}$, $MConf_s^{P3}$, MSB_s^{P3}, WSB_s^{P3}	EW_{s-n}^{P1}	$SWAE_{s-n}^{P1}$	None
	$Seed_{s-n}^{P2}$	$STB_{s-n}^{P1} \times Tied_{s-n}^{P1}$	STB_{s-n}^{P1}, $Tied_{s-n}^{P1}$, SOS_{s-n}^{P1}, EW_{s-n}^{P1}
	$Level_{s-n}^{P3}$	$PWAE_{s-n}^{P3} \times ByeWC_{s-n}^{P2}$, $PWAE_{s-n}^{P3} \times PlayedWC_{s-n}^{P2}$	$\bar{Seed}_{s-n}^{P2}$, EW_{s-n}^{P1}
	DE_{s-n}^{P4}	$CorrSOS_{s-n}^{P1} \times TII_{s-n}^{P3}$	$CorrSOS_{s-n}^{P1}$, TII_{s-n}^{P3}, $DGRT_{s-n}^{P3}$, $DGtie_{s-n}^{P3}$, $\bar{DOGroup}^{P3}{}_{s-n}$, $\bar{Seed}_{s-n}^{P2}$, $\bar{Level}_{s-n}^{P3}$, $\bar{EW}_{s-n}^{P1}$

Variable Glossary:

- EW_t^{P1} is a team's effective wins during the regular season, wins $+\frac{1}{2}$ ties
- $\bar{EW}_t^{P1}$ is a vector including EW_t^{P1}, dummies for a team being in each of the four all-time quartiles of effective wins (below 6, from 6 to 8, from 8.5 to 10, and from 10.5 to 16), and interactions between EW_t^{P1} and each of the quartile dummies
- $Seed_t^{P2}$ is a team's playoff seed: 1=no playoffs, 2=6 seed, 3=5 seed, 4=4 seed, 5=3 seed, 6=2 seed, 7=1 seed
- $\bar{Seed}_t^{P2}$ is a vector of dummies for each value of $Seed_t^{P2}$
- $Level_t^{P3}$ is the playoff level a team reached: 0=no playoffs, 1=eliminated in Wild Card round, 2=eliminated in Divisional Round, 3=eliminated in Conference Championship, 4=lost in Super Bowl, 5=won Super Bowl
- $\bar{Level}_t^{P3}$ is a vector of dummies for each value of $Level_t^{P3}$
- MP_t^{P2} is an indicator for whether a team reached the playoffs
- $MDiv_t^{P3}$ is an indicator for whether a team reached the divisional round at least
- $MConf_t^{P3}$ is an indicator for whether a team reached the conference championship at least
- MSB_t^{P3} is an indicator for whether a team reached the Super Bowl, regardless of its result
- WSB_t^{P3} is an indicator for whether a team won the Super Bowl
- DE_t^{P4} is a team's draft endowment
- $SWAE_t^{P1}$ is a team's wins above expected in the regular season. This is EW_t^{P1} minus the sum of their season win probabilities calculated with 2 minutes remaining in each game
- STB_t^{P1} is a tiebreaking index (caliber) for playoff seeding
- $Tied_t^{P1}$ is a three-level variable on whether the team is in the playoff hunt and tied within their conference and/or division (the seeding tiebreaker sensitivity)
- $PWAE_t^{P3}$ is a team's wins above expected in the playoffs. This is their number of playoff wins minus the sum of their playoff game win probabilities calculated with 2 minutes remaining in each game
- $ByeWC_t^{P2}$ is a dummy for whether a team had a bye during the Wild Card round (equivalently, whether they were assigned a playoff seed of 1 or 2)
- $PlayedWC_t^{P2}$ is a dummy for whether a team played during the Wild Card round (equivalently, whether they were assigned a playoff seed between 3 and 6)
- SOS_t^{P1} is a team's strength of schedule
- $CorrSOS_t^{P1}$ is a team's strength of schedule calculated without inclusion of games in which the team played and opponents to whom the team was not randomly assigned
- TII_t^{P3} is the tie impact index for draft pick allocation
- $DGRT_t^{P3}$ is the number of teams with the team's record within their draft group (including the team)
- $DGtie_t^{P3}$ is a dummy for whether a team is tied within their draft group at all
- $\bar{DOGroup}^{P3}{}_t$ is a vector of dummies for each draft order group type (no playoffs [post-2008], eliminated in Wild Card round [post-2008], eliminated in Divisional round [post-2008], eliminated in a Conference Championship [post-2008], did not make Super Bowl [pre-2009], lost Super Bowl [entire time horizon], won Super Bowl [entire time horizon])

Table 10: Correlational Regressions Results Summary

	1 Year Out	2 Years Out	3 Years Out	4 Years Out	5 Years Out	6 Years Out
Effective Wins	+++	+++	++	+	.	.
Playoff Seed	++	.	.	.	.	.
Playoff Level	.	.	.	.	.	.
Draft Endowment	.	.	.	.	.	.

Legend: +++ corresponds to, of the 8 outcomes, half or more being statistically significant at a 0.01 level and positive. ++ corresponds to half or more being statistically significant at a 0.05 level and positive. + corresponds to half or more being statistically significant at a 0.1 level and positive. A period in the space signifies no effect. Negative signs carry analagous meaning to the positive signs.

4 Results

Collectively, the results support intuitions regarding draft endowments – getting more premium draft allocations does increase a team's future prospects. On the other hand, the evidence regarding deviations in pure standings – be it effective wins, playoff seeds, or playoff levels reached – only shows meager levels of causality. There does seem to be some degree of positive carryover effect from a team's playoff seed, but no such effect for both effective wins and playoff level. Furthermore, while the impacts of draft endowment appear long-run, the impacts of seeding appear short-lived. Unfortunately, the playoff level results are all over the place, making it difficult to interpret and raising caution regarding its identification strategy. All correlation, reduced form, and IV regression results are tabulated at the end of this document. Tables 10 to 13 summarize the many regressions.

Firstly, Table 10 conveys the main takeaways from the correlational regressions. Although draft endowment ends up having a causal effect displayed by IV regressions later, it displays no predictive effect here. Effective wins, however, which fails to display any sort of causal impact later on, displays high levels of correlation with future success, tapering as the seasons grow more distant. Playoff seeds show a correlation for the next season, but fail to do so beyond that one year. Playoff levels show no predictive effect for future outcomes whatsoever.

Table 11 conveys the results of the reduced form regressions, which are the predictive effects of the instruments on the outcomes, ignoring the treatments. The instrument for playoff seeds shows stronger direct correlation than its specified treatment does in the correlational regressions summarized in Table 10. The reduced form regressions using the instruments for playoff level display confusing dissonance. The interaction of $PWAE_{s-n}^{P3}$ with the indicator for a team having a first-round bye has statistically significant predictive effects going from negative to positive, and the interaction of $PWAE_{s-n}^{P3}$ with the indicator for a team playing during the Wild Card round displays high statistical significance three years out, but none in the years surrounding. Accordingly, especially considering the IV regressions using playoff level do not return interesting results, the identification strategy for playoff level may be viewed with some added skepticism. In the reduced form regressions employing the instrument for draft endowment, the underlying effects that drive the causality in the IV regressions can be seen.

Table 12 conveys the overall IV regression results, which drive the focus of this thesis. As mentioned in the opening paragraph of this section, one sees that draft endowment carries consistently negative statistically significant causal effects (as a team gets *worse* draft picks, they *are* expected to improve in the future), and that playoff seed displays positive statistically significant causal effects (as a team improves their playoff

Table 11: Reduced Form Regressions Results Summary

	1 Year Out	2 Years Out	3 Years Out	4 Years Out	5 Years Out	6 Years Out
$SWAE^{P1}_{s-n}$	.	.	.	.	.	.
Seed DiD Inst.	++	.	++	.	.	.
$PWAE^{P3}_{s-n}$, 1-2 Seeds	. (Note 1)	.	.	++	.	. (Note 2)
$PWAE^{P3}_{s-n}$ 3-6 Seeds	.	.	−−−	.	.	.
Draft DiD Inst.	−	.	. (Note 3)	−	.	−−

Legend: +++ corresponds to, of the 8 outcomes, half or more having at least one explanatory variable statistically significant at a 0.01 level and positive. ++ corresponds to half or more having at least one explanatory variable being statistically significant at a 0.05 level and positive. + corresponds to half or more having at least one explanatory variable being statistically significant at a 0.1 level and positive. A period in the space signifies no effect. Negative signs carry analagous meaning to the positive signs.
Note 1: This instrument carries negative and statistically significant coefficients at a 0.01 level when predicting the 1) indicator for making it to the Conference Championship and 2) indicator for making it to the Super Bowl.
Note 2: There are two outcomes for which this instrument carries a positive coefficient that is statistically significant at a 0.05 level (playoff level and playoff seed), and one for which this instrument carries a positive coefficient that is statistically significant at a 0.01 level (effective wins).
Note 3: There are two outcomes for which this instrument carries a negative coefficient that is statistically significant at a 0.05 level (effective wins and the indicator for making the playoffs), and one for which this instrument carries a negative coefficient that is statistically significant at a 0.1 level (playoff seed).

seed, they are expected to have carryover effects the next few years holding all else constant). In season $s-1$, draft endowment displays its most notable effects predicting playoff level reached and, specifically, whether a team will reach the Conference Championship round of the playoffs. For both these outcomes, the point estimates suggest that improving a team's draft endowment exogenously by one standard deviation, holding all else constant, can be expected to increase their playoff level reached the next season by *two* standard deviations. That said, the standard errors are large, and so the specific point estimate ought to be treated with caution. However, the large magnitude speaks to the possible significance draft endowment shifts can have on a team's outlook going into the future. For instance, a team having their first round pick confiscated due to rulebreaking would be causing significant harm to the franchise's future. Though these causal effects disappear two seasons out, similarly significant standard errors return in multiple later seasons.

Working in the opposite direction, exogenous boosts to playoff seed, holding all else constant, seem to affect the next few seasons in the same direction. Specifically, the coefficients on playoff seed in the IV regressions for effective wins and playoff seed earned one year out have magnitudes around 1.5. Thus, the evidence suggests that increasing a team's playoff seed by 1 standard deviation could increase their likely seed the next season by 1.5 standard deviations.[32] This is a massive implication for teams like the 2018 Chiefs and Chargers, who, tied within their division, were allocated the 1 and 5 seeds respectively just because the Chiefs fared better within their division than the Chargers while the Chargers fared better outside their division than the Chiefs. However, unlike the draft endowment's causal effect, the playoff seed's causal effect does not last long.

That said, for both of the above variables, such shock sizes are likely unreasonable in most cases. The

[32] Again, this precise estimate should be applied with caution due to large standard errors.

Table 12: IV Regressions Results Summary

	1 Year Out	2 Years Out	3 Years Out	4 Years Out	5 Years Out	6 Years Out
Effective Wins	.	.	.	.	.	.
Playoff Seed	+	.	+	.	.	.
Playoff Level	. (Note 1)	.	.	.	.	.
Draft Endowment	−	.	. (Note 2)	−	.	−−

Legend: +++ corresponds to, of the 8 outcomes, half or more being statistically significant at a 0.01 level and positive. ++ corresponds to half or more being statistically significant at a 0.05 level and positive. + corresponds to half or more being statistically significant at a 0.1 level and positive. A period in the space signifies no effect. Negative signs carry analagous meaning to the positive signs.

Note 1: There are two outcomes for which this treatment carries a negative coefficient that is statistically significant at a 0.05 level (the indicator for making it to the Conference Championship and the indicator for making it to the Super Bowl).

Note 2: There are two outcomes for which this treatment carries a negative coefficient that is statistically significant at a 0.05 level (effective wins and the indicator for making the playoffs). There is also one outcome for which this treatment carries a negative coefficient that is statistically significant at a 0.1 level (playoff seed).

standard deviation of draft endowments is 25.7% of the value of the first overall pick. The sandard deviation of playoff seeds is 2. Most shocks would likely be more marginal. Perhaps, if that is the case, the high marginal returns of such shifts biases the estimates upwards if one uses the model to predict the effects of large shocks, for which there may be diminishing marginal returns not adequately captured by the linear models.

Finally, Table 13 conveys the results from a placebo test of the instrumental variable set-up. This placebo test uses *present* values of the regressors to predict *past* values of the outcomes (specifically, outcomes from one year ago). Both the draft endowment and effective wins coefficients are all statistically insignificant, supporting the validity of their earlier models. However, playoff level's placebo tests show a fair bit of effect, throwing the validity of its model into further question. The results for the placebo tests for playoff seed are mixed. Each of the IV results is negative, and two of the eight coefficients (in the regressions for playoff level reached and the indicator for making the Super Bowl) show statistical significance at a $p < 0.1$ level. This should add a hair of caution to interpretations of the model, but it is not catastrophic. The eight outcome variables should be correlated, and so noise causing each of the effects to point in the same direction should be more than plausible. Secondly, the two outcomes that yield statistically significant treatment effects are not the most prominent recipients of the playoff seed effects discovered in the actual IV regressions. Thus, it remains very plausible that the identification model for playoff seeds is satisfactory.

Table 13: IV Placebo Regressions Results Summary

	1 Year Out
Effective Wins	.
Playoff Seed	. (Note 1)
Playoff Level	+
Draft Endowment	.

Legend: +++ corresponds to, of the 8 outcomes, half or more being statistically significant at a 0.01 level and positive. ++ corresponds to half or more being statistically significant at a 0.05 level and positive. + corresponds to half or more being statistically significant at a 0.1 level and positive. A period in the space signifies no effect. Negative signs carry analagous meaning to the positive signs.

This table only shows 1 year out because the placebo was only run predicting outcomes from $s-1$ given regressors from season s.

Note 1: Disclosure: two of eight playoff seed coefficients in the placebo IV regressions carry a statistically significant ($p < 0.1$) and negative coefficient. All others are not statistically significant, but are negative as well.

5 Conclusion

This thesis provides estimates for the causal effects of past NFL win totals, playoff seeds, playoff levels reached, and draft endowments on present NFL outcomes. The IV and DiD strategies employed are quite novel to the field of football statistics. Thus, these causal estimates are quite novel in their interpretability, providing a different basis of evidence for and against league parity both in the short-and-long-term. Although "worsening" one's standings in the draft does on average inflate one's long-run utility derived from that draft, doing so specifically by intentionally reducing one's win total, playoff seed, or playoff level manipulation may not carry the intended downstream effects. Finding ways to improve a team's playoff seed, for instance, can have carryover effects in the near future. The specifications for observing the effects of win totals and playoff levels reached failed to display any causal effects, and the strange results of the reduced form and IV placebo regressions for the playoff levels reached specification put into question the reliability of that specific model. However, the results on draft endowment, playoff seed, and win totals remain worthy of consideration.

Future research could investigate the more specific psychological and structural mechanisms behind these causal effects, which are beyond the scope of this thesis. This study *does* rule out the idea that the positive effect of playoff seeds on future success is due to depreciated draft pick value, as such shifts in the latter variable are shown to on average make a team worse off for not just the short-run (1-2 years) but also the medium-run (3-6 years). However, how much the seeding influence has to do with divisional effects, team confidence, coach confidence, fan morale at the stadium, attractiveness to free agents in the offseason, or a multitude of other possible factors must be left unanswered in this paper. Likewise, the nuance of *how* increases in perceived draft endowment improve a teams' future prospects must be left unanswered. It could be driven by better availability of young quarterbacks (the consensus most valuable position in football) during the draft, better ability to trade for more picks, increased organizational and fan optimism, or a variety of other possible factors. I leave this investigation to someone else in the future.

All in all, this paper supports the idea of the National Football League as a fairly competitive league that mitigates the likelihood of teams failing to climb out of mediocrity for long periods of time. The positive influence of perceived draft endowment on future seasons beyond the short-run seems to outweigh the short-run influence of increases in playoff seeding. For many teams, deviations in playoff seeding are not really in question. If a team is not near playoff contention, they have no fear of dropping down a seed, because they are already at the floor. Thus, they seem fairly positioned to take advantage of the draft pick allocation procedure without much negative effect. "Tanking," in which a team intentionally loses games to improve their draft position, may be worth the social costs if there exists a significant opportunity to quickly rise up the draft order. Whether the league desires such gaming of their re-distributional system is another story.

Although football analytics has gained popularity in recent years, the impact of econometic approaches remains minute in the field. Perhaps this thesis can be one of many papers shifting that trend, moving football analytics further in the direction of causal inference rather than prediction and description.

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7 Appendix

7.1 League History and Rules

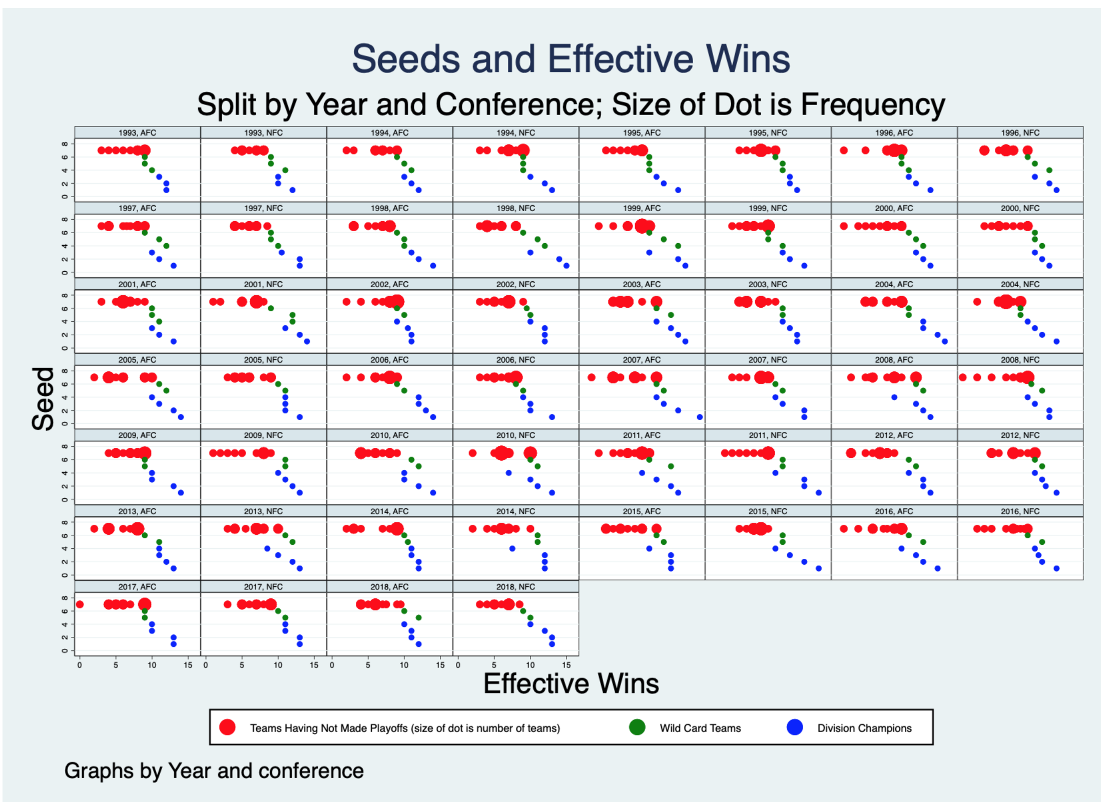
7.1.1 Expansion Teams

The two teams added in 1995 were the Carolina Panthers and Jacksonville Jaguars. In 1999, the league admitted the new Cleveland Browns; following the old Cleveland Browns' relocation to Baltimore a few years prior (to become the Ravens), the league allowed Cleveland to start a new team under the old name. In the data, I code the old Browns and Ravens as the same team, and the new Browns as a separate expansion team like the Jaguars and Panthers. The team added in 2002 was the Houston Texans.

7.1.2 Effective Wins and Seeds Plot

The below figure displays the effective wins and seed of each team during the sample's era.

Figure 7: Seeds Across All Seasons



7.1.3 Draft Groups

Before the 2010 draft (corresponding to 2009's standings), the Super Bowl winner would be awarded the last pick of each round, the Super Bowl loser would be awarded the penultimate pick of each round, and all other picks would be allocated based on win percentages (and tiebreakers). I use the term "draft group" to describe groups of teams that are placed together in standings for the allocation of picks. Since the 2010 draft (corresponding to 2009's standings), the composition of the draft groups has changed. Draft groups become equivalent to the six playoff levels reached. So, only the 20 worst teams (who did not make the playoffs) are grouped together and sorted by wins and tiebreakers, as opposed to all but two teams in the years prior. Accordingly, there have been fewer ties in draft groups since 2010. From 1993 to 2009, 82.2% of teams were tied with at least one other team in their draft group. Since then, the number has fallen to 63.4%. The average number of teams with the same record and draft group before 2010 was 3.3 (unconditional on playoff level/draft group size). Since, the number has fallen to 2.5.

Table 14: Draft Group Sizes Over Time

Seasons	End of Season Outcome						
	Did not advance to SB	No Playoffs	Eliminated in WC	Eliminated in DR	Eliminated in CC	Lost in SB	Won SB
1993-1994	26	0	0	0	0	1	1
1995-1998	28	0	0	0	0	1	1
1999-2001	29	0	0	0	0	1	1
2002-2008	30	0	0	0	0	1	1
2009-2019	0	20	4	4	2	1	1

Glossary:
SB refers to the Super Bowl
WC refers to the Wild Card round
DR refers to the Divisional round
CC refers to a Conference Championship
Note: These draft group-season pairs refer to the season whose standings determine draft group, not the year in which the draft actually occurs. For instance, draft groups for the 2019 draft pair with the 2018 NFL season.

7.1.4 Supplemental Draft

The supplemental draft occurs after the normal draft, and includes players who, for one of multiple possible reasons, were ruled ineligible for the normal draft. If a team makes a pick in the supplemental draft, they lose their pick in the next year's normal draft that corresponds to the same round. Essentially, you are trading next year's pick for a present option. Accordingly, teams do not yet know the exact value of the pick they are giving up. Teams will rarely exercise their option to pick in the supplemental draft.

7.1.5 Draft Tiebreakers

The NFL's tiebreaking procedures for draft order are as follows:

1. Strength of schedule
2. Divisional tiebreakers, as laid out below (if applicable)
3. Conference tiebreakers, as laid out below (if applicable)
4. Coin flip

7.1.6 Draft Tie Cycling

If there are three teams in a tiebreaker, with A winning the tiebreaker, C losing, and B in the middle, the relative order of the teams across the rounds would be the following:

Round 1: A, B, C

Round 2: B, C, A

Round 3: C, A, B

Round 4: A, B, C

Round 5: B, C, A

Round 6: C, A, B

Round 7: A, B, C

7.1.7 Seeding Tiebreakers

Firstly, divisional ties between two teams are broken according to the following criteria:

1. Head-to-head win percentage
2. Win percentage in divisional games
3. Win percentage in games played against common opponents between the two teams
4. Win percentage in conference games
5. Strength of victory (the total winning percentage of clubs which the team defeated in the regular season (D'Andrea 2016))
6. Strength of schedule (the total winning percentage of clubs which the team competed against in the regular season)
7. The sum of the teams' conference ranks in points scored and points allowed
8. The sum of the teams' league ranks in points scored and points allowed
9. Net points in games played against common opponents between the two teams
10. Net points in all games

11. Net touchdowns (the primary scoring play in American football) in all games
12. Coin toss

Divisional ties between three or more teams are broken according to the following criteria (here, for the sake of concision, I list only the first six tiebreakers):

1. Head-to-head win percentage against all other teams in the tie
2. Win percentage in divisional games
3. Win percentage in games played against common opponents between the tied teams
4. Win percentage in conference games
5. Strength of victory
6. Strength of schedule

If two teams remain once others are eliminated through these tiebreakers, the two remaining teams revert to the first step of two-team divisional tiebreakers.

If teams tied for a wild card slot (and not tied with any others) are from the same division, the above divisional tiebreakers apply first to them.

If two teams tied for a wild card slot (and not tied with any others) are from different divisions, the following tiebreakers apply (I again only list the first six tiebreakers):

1. Head-to-head win percentage, if applicable (the teams may not have played each other in the regular season)
2. Win percentage in conference games
3. Win percentage in games played against common opponents between the tied teams, if at least four such games were played
4. Strength of victory
5. Strength of schedule
6. The sum of the teams' conference ranks in points scored and points allowed

If three or more teams are eligible for a wild card slot, the following tiebreakers apply (I again only list the first six tiebreakers):

1. First, apply divisional tiebreakers to eliminate all but the second-place teams from each division
2. Head-to-head "sweep," only applicable if either one team has defeated each of the others in the regular reason or one team has lost to each of the others in the regular season
3. Win percentage in conference games

4. Win percentage in games played against common opponents between the tied teams, if at least four such games were played
5. Strength of victory
6. Strength of schedule

As in the case of the divisional tiebreaking procedure, if two teams remain once others are eliminated through these tiebreakers, the two remaining teams revert to the first step of whichever two-team tiebreakers apply (divisional or non-divisional).

These tiebreakers apply to determine one team advancing to the playoffs at a time. That is, if two playoff spots are open, it is *not* the top two teams in the tiebreaker who are awarded the spots. Rather, the first spot is awarded to the first team to win the tiebreakers, and then the second spot is awarded to the first team to win the tiebreakers *when the former team has been removed from the pool.*

The league determines the order of the division winners using the wild card tiebreakers once those four (or, before 2002, three) teams have been determined.

From 2003 to 2018, the above tiebreakers have been applied with the following frequency:

1. Head-to-head (conference): 21 times
2. Win percentage in conference games: 16 times
3. Win percentage in common games: 11 times
4. Win percentage in divisional games: 9 times
5. Head-to-head (divisional): 7 times
6. Strength of victory: 5 times

Thus, one sees that the conference tiebreakers have been applied more frequently than the divisional tiebreakers. However, it is also worth noting that the divisional tiebreakers can, when applied, carry more weight influencing the playoff seed variable. It can be the case that a division has the two best teams in the conference, in terms of win percentage. Then, whoever wins the divisional tiebreaker obtains the first seed, whereas the team to lose the divisional tiebreaker obtains the fifth seed (from 2002-on, and the fourth seed before 2002) – a big difference in playoff seed magnitude compared to that between a wild card team getting either the 5th or 6th seed, or a team getting the 6th seed or missing the playoffs entirely.

One also sees that during those sixteen years, the tiebreaking procedures only needed to proceed to the fifth level (strength of victory) at most. All tiebreaking activity during this period could be chalked up to six different team metrics (two of which were head-to-head winning percentages/sweeps).

7.2 Calculations, Coding, and Visualizations for Models

7.2.1 Calculating Win Probabilities With Two Minutes Remaining

I use the state of the game at the two-minute warning (an automatic timeout called when the clock hits two minutes)[33] to calculate $P_{g,s}$.

Let $EffWin_{g,s}$ be the "effective win" of game g in a team's season, taking 1 if they win the game, 0.5 if they tie, and 0 if they lose. I estimate $EffWin_{g,s}$ using logistic regression[34] given the state of the game at the two minute warning (I refer to observable quantities regarding the state of the game $traits_{g,s}$ of which we have T; they can be included in the vector $T\bar{r}aits_{g,s}$). These traits are: the score differential with two minutes remaining, the offense's expected points before the play, the spread of the current game, the sum of game spreads over a season for each team, the sum of game spreads over a season for each team correcting for strength of schedule, Vegas's preseason over/under win totals for each team, the log of Vegas's preseason Super Bowl odds for each team, a variable representing quarterback quality, timeouts used by the offense, timeouts used by the defense, which team is hosting the game, seconds remaining,[35] and whether the game is a playoff game. The latter makes sense to include as the regressions are run only from the perspective of teams with the ball, and there may be an impact of playoff game pressure on an offense's ability to succeed at the end of games. I exclude plays where the team has already clinched victory (or defeat), and automatically provide them with a win probability of 1 (or 0). The correlation of the estimated win probabilities with effective wins is 0.858. This is roughly 0.02 higher than the estimated win probabilities using a model defined by PFR for use in situations in the middle of the game. This regression be represented as:

$$E(EffWin_{g,s}|T\bar{r}aits_{g,s}) = \alpha_{17} + \sum_{j=1}^{T} \beta_j trait_{g,s;j} + u_{17} = P_{g,s} \tag{17}$$

Thus we have the predicted probability of a team winning each game g.

7.2.2 Wins Above Expected Robustness Checks

Note: in Figure 11, these games were ones in which the quarterback's name was mentioned in the play description; thus, they had possession of the ball with two minutes remaining. Tom Brady is an outlier.

7.2.3 Defining Playoff Wins Above Expected, and Facts About the Variable

Let p represent the playoff week (18 to 21).

$$E(EffWin_{p,s}|T\bar{r}aits_{p,s}) = \alpha_{18} + \sum_{j=1}^{T} \beta_j trait_{p,s;j} + u_{18} = P_{p,s} \tag{18}$$

Thus we have the predicted probability of a team winning each playoff game p given the state of the same with two minutes remaining. Then,

$$W_{p,s} - P_{p,s} = WAE_{p,s} \tag{19}$$

[33]Note: the clock continues to run past the 2:00 mark until the present play finishes. I use the state of the game before the first snap that follows the two-minute warning.

[34]Excluding ties.

[35]Due to the two minute warning sometimes falling briefly after the clock hits two minutes instead of right on the dot.

Figure 8: Serial Correlation of Season Wins Above Expected

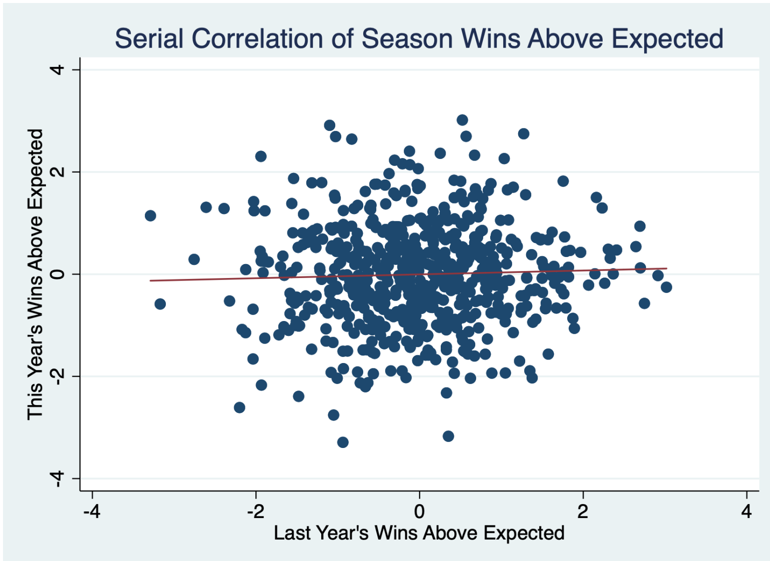


Figure 9: Wins Above Expected Distributions by Team

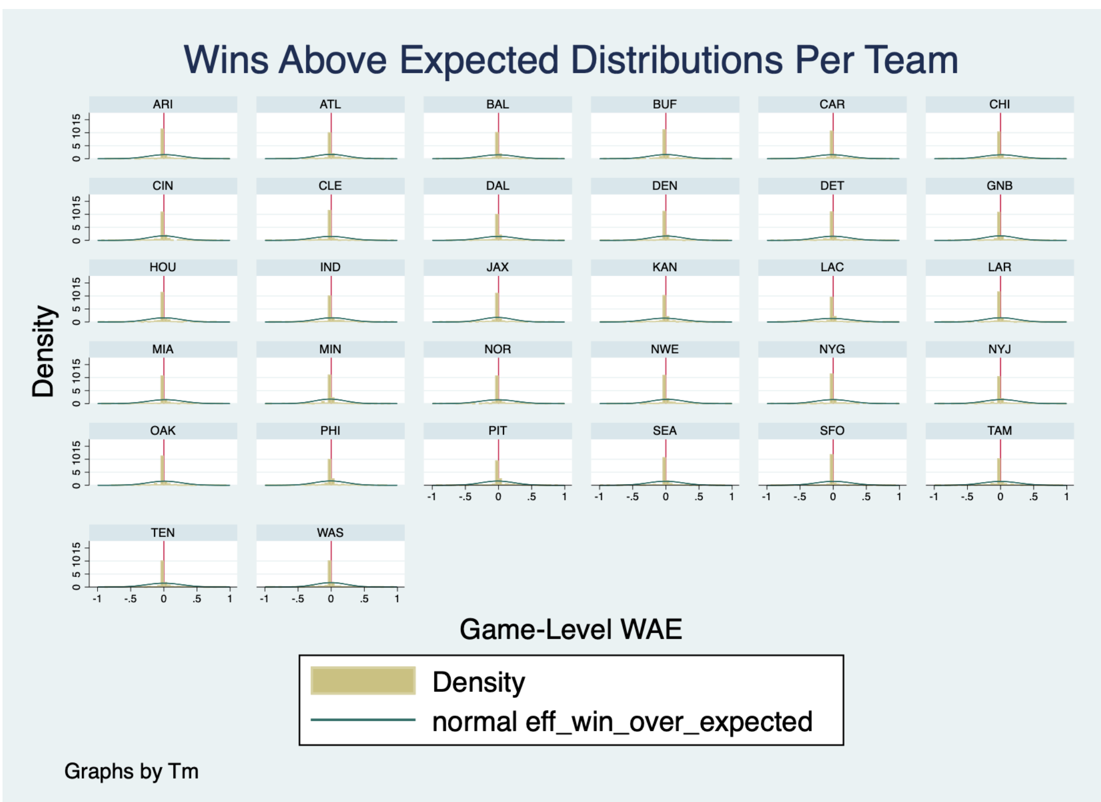


Figure 10: Wins Above Expected Distributions by Head Coach

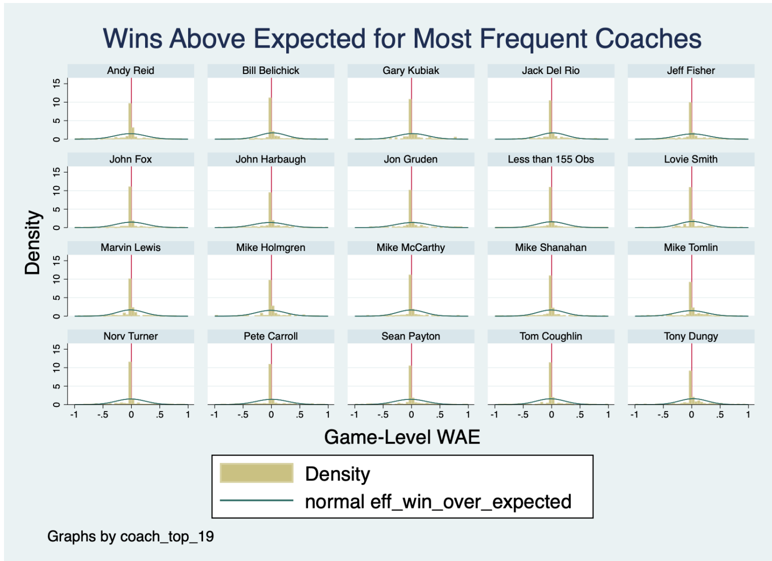
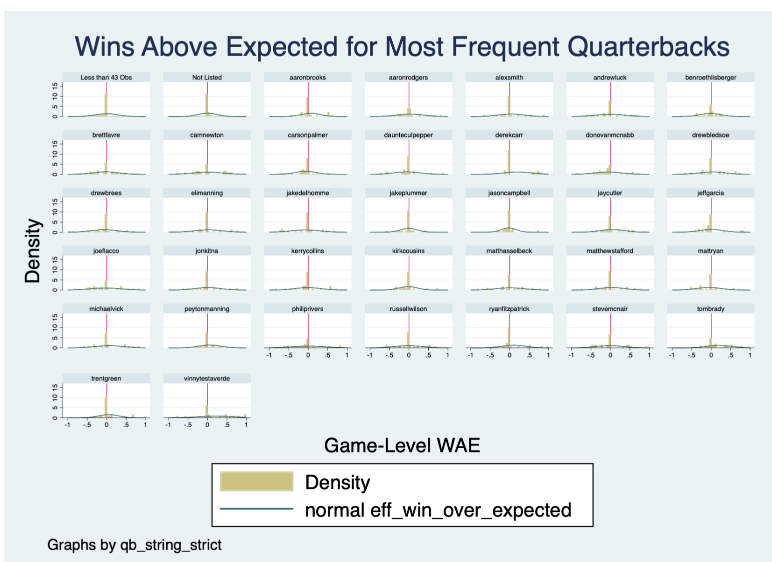


Figure 11: Wins Above Expected Distributions by Quarterback



is a team's playoff WAE given their position at the two minute warning for that playoff game. It takes values in the range $(-1, 1)$, with the expectation being 0. Summing these values across a team's playoff games gives the collective wins above expected for a postseason:

$$\sum_{p=18}^{21} WAE_{p,s} = PWAE_s^{P3} \tag{20}$$

Note that teams eliminated from the playoffs obtain a $WAE_{p,s}$ of 0 for any p that the team did not play due to elimination.

Further, note that the lower bound for $PWAE_s^{P3}$ is -1, as this represents the worst possible $WAE_{p,s}$ for an individual game, and that it occurs in the case of a loss, which eliminates a team from the playoffs and prevents them from accruing any more $WAE_{p,s}$ values. The upper bound for $PWAE_s^{P3}$ is the number of playoff games a team plays. Imagine that in each game the team has a highly improbable comeback to win, accruing a $WAE_{p,s}$ of approximately 1 (the maximum possible value) in each game. If they began on wild card weekend, they can obtain a $PWAE_s^{P3}$ of 4...1 from the Wild Card round, 1 from the Divisional round, 1 from the Conference Championship, and 1 from the Super Bowl. On the other hand, if they had a first round bye, they can only obtain a $PWAE_s^{P3}$ of 3.

7.2.4 Coding the Playoff Seed and Level Variables

The playoff seed variable, for each year, takes one of seven values. Two teams each obtain the six highest values, and all other teams take the lowest (for not making the playoffs). Likewise, the playoff level reached variable (which I simply refer to as playoff level) takes one of six values. Most teams take the lowest value, as they did not make the playoffs. Four teams take the second lowest, as they were eliminated in the Wild Card round. Four teams take the third lowest, as they were eliminated in the Divisional Round. Two teams take the fourth lowest, as they were eliminated in the penultimate round. Then, one team each takes the top two values: one for losing the Super Bowl and one for winning it.

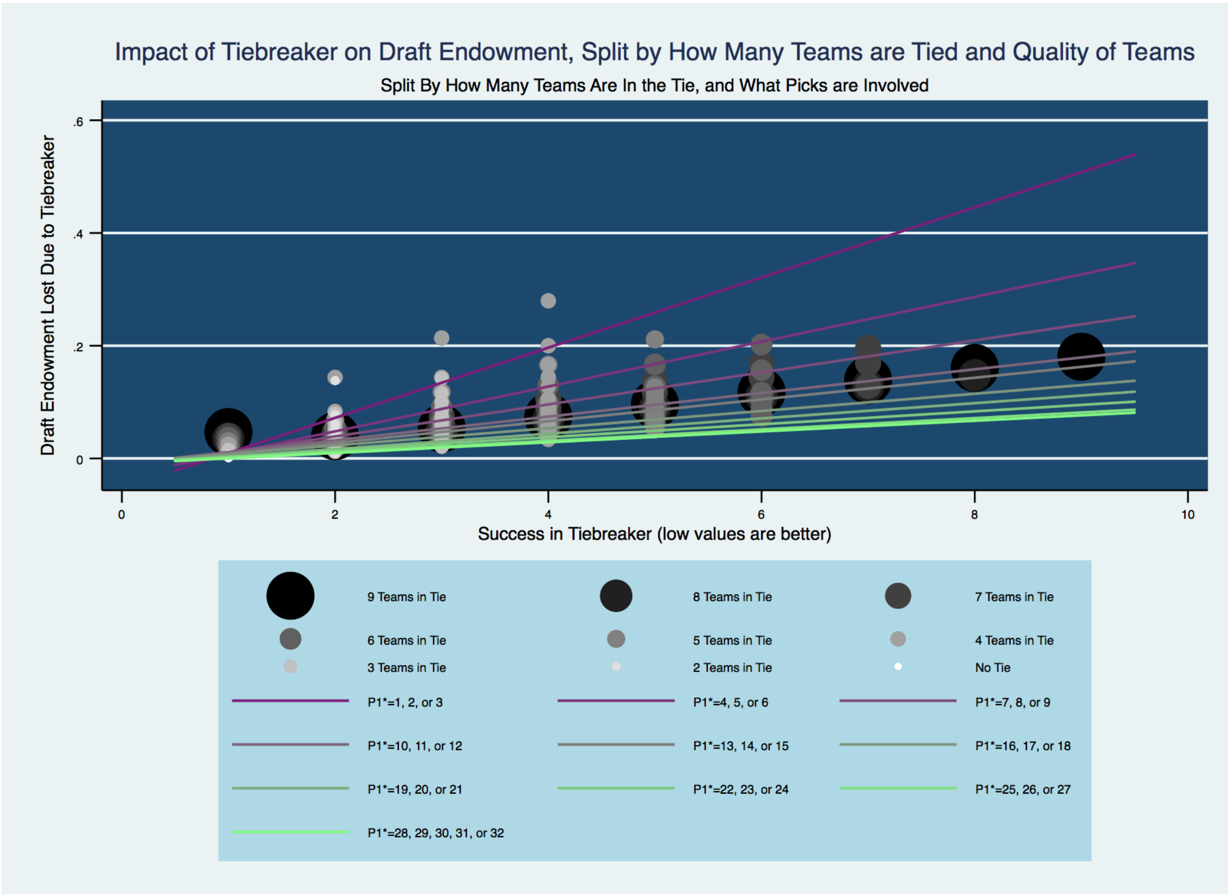
7.2.5 The Massey-Thaler Curve

Massey and Thaler employ two models, one with a year to year discounting rate and the other without (which only used trades that only included picks in one draft). I use their model without the discounting rate, as it provides estimation for a more controlled environment (looking at NFL assets intertemporally can be complicated...coaches and front office staff often are on short leashes, and accordingly overweight the present to make sure they don't lose their job (Massey and Thaler 2013). A second round pick this year that decreases one's high chances of getting fired can be much more valuable than a first round pick next year, which likely will be used by the person who replaces one).

7.2.6 Differential Impact of Draft Tiebreaker on Teams Tied With Multiple Peers and With Better Picks Within A Round

Figure 12 displays the impacts the draft tiebreakers have had on perceived draft endowment. As the picks involved become later in the round, the magnitude of losses due to the tiebreaker is mitigated (this is shown

Figure 12: Draft Endowment Losses by No. of Teams Tied and Position in Round



by the colors of the lines, going from magenta to green).[36] Further, almost always, technical success in the tiebreaker translates to realized success in draft endowment value, even though winning the first-round tiebreaker can lead to losses in value in later rounds (this is shown by the increasing heights of identically-sized-and-colored circles). An exception to that rule is found between the top team and second team in the 9-team tiebreaker, as evidenced by the large black dot farthest to the left being slightly higher than the one to its right.

7.2.7 Comments on the Coding of Draft Endowments

Very importantly, I am looking at the effect of **draft pick endowments**, not draft picks acquired. Specifically, I am looking at the effect of the seven draft picks awarded annually to each team. I ignore compensatory picks in this analysis, as well as expansionary picks. Likewise, I do not care what the teams choose to do with these seven allocated picks. Teams have four options. They can sit with the pick, wait until draft day, and use it when the time comes. They can trade the pick, right up until the pick needs to be made.

[36]For instance, the darkest magenta line is fit among observations for which the highest possible first round pick in the tie, which I call $P1^*$, is within the top 3 picks. The loss of draft capital due to tiebreaker losses is much higher for these observations, compared to those with $P1^*$ above 27 (the brightest green curve).

Oftentimes, teams trade future picks whose specific value has not yet been determined (i.e. a future third round pick, which could be the 65th pick, or could be the 96th). We assume that in doing so, the teams are making educated guesses about what the value will likely be (and not just ignoring the possible variation). A Super Bowl contender's pick, for instance, will be valued lower than a weaker team's pick, as we can expect the former team to continue being more successful than the latter a few years into the future. Additionally, they can use the pick in the league's supplemental draft, which is described in Appendix 7.1.4. We again assume that if they used the pick for the prior year's supplemental draft they made an educated guess on the value of the pick. For my definition of draft pick endowment, supplemental draft picks' value applies to the original pick that is given up, that is, the pick in the following year's normal draft. Finally, teams can "choose" to break league rules, causing the league to rescind picks in a future draft. For instance, in the fallout of the famous "Deflategate" scandal of the 2014 season, the league rescinded the New England Patriots' first round pick in the 2015 NFL draft and a fourth round pick that they had obtained in a trade from the New Orleans Saints in the 2016 NFL draft (Stromberg 2015). In these scenarios of forfeiture, I do not count the picks toward a team's endowment. The team never gets to operationalize the value of the pick – unlike in the cases of trades and supplemental picks, there is no educated guess being made (I assume teams do not consider the differing possible values of future draft picks when deciding to break league rules).

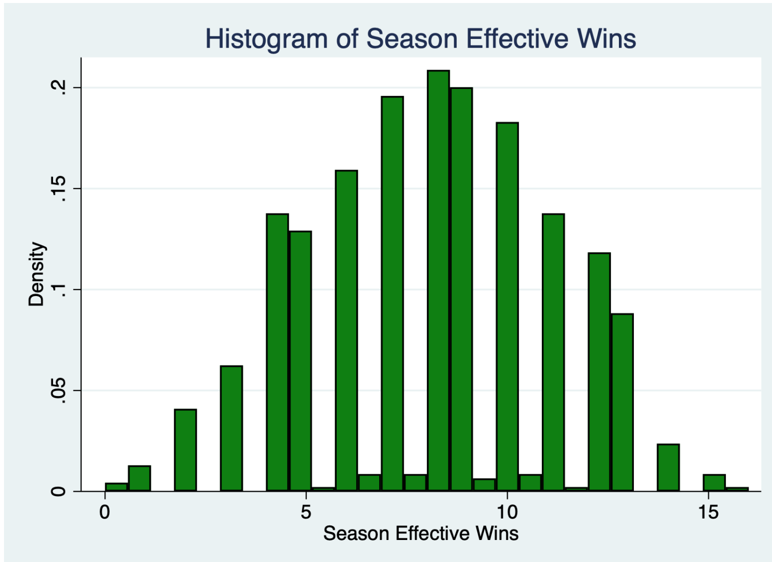
Furthermore, in the rare scenario of a team failing to submit their choice by the end of their pick timer on draft day, in which case other teams can jump over them until they submit their pick, I treat their pick position as the position at which they actually end up making their decision. In a similar sense to the rule-breaking scenario, I just count the loss of value against the team as forfeiture by negligence.

I assign each draft pick value according to its perceived position in the draft. For instance, if a team was assigned the fifth pick of the second round in 2015, which would be the 37th pick, but the Patriots lost their pick by forfeiture earlier on, I would assign this pick with the value of the 36th pick. Compensatory picks, usually awarded between rounds, and expansion picks, which were allocated to expansion teams in their first couple seasons (and operate identically to compensatory selections), frequently lead to this shifting of pick value. To reiterate, the assigned value is all about the *perceptions* of the team. If I have the first overall pick, but the league decides to give away 10 compensatory picks before me (an unrealistic scenario), my first overall pick would receive the value of the 11th overall pick.

7.2.8 Comments on the Corrected Strength of Schedule

Schedules in the NFL are determined in part by the standings of the past season. From 2002-on, each team has had 6 games against their divisional opponents, 4 games against each team in another (randomly assigned) division in the conference, 4 games against each team in a (randomly assigned) division in the other conference, and 2 games against the teams in the two other divisions in the team's conference who shared the same divisional ranking as the team at hand a season before. Thus, there is a component of a teams' strength of schedule determined by their performance the season prior. Further, teams' performance *this* season also affects their strength of schedule. If they beat an opponent, that opponent has a smaller win percentage, and so the average win percentage of our team's opponents decreases. These two effects (especially, I suspect, the first) contributed to strange results in the placebo tests when I ran them using normal strength of schedule. Accordingly, I instead choose to employ a "corrected strength of schedule" in which I remove a team's contribution to their strength of schedule and do not include the two games against teams that are not randomly assigned.

Figure 13: Draft Endowment Losses by No. of Teams Tied and Position in Round



7.2.9 Season Effective Wins Frequencies

8 All Instrumental Variable Regression Tables

Table 15: Effective Wins_{s-1}; First Four Outcomes

	Effective Wins_s^{P1}			Playoff Level Reached_s^{P3}		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins_{s-1}^{P1}	0.312***		-0.084	0.291***		-0.106
	(0.043)		(0.155)	(0.046)		(0.160)
Reg. Season WAE_{s-1}^{P1}		-0.024			-0.030	
		(0.043)			(0.044)	
Observations	781	635	635	781	635	635
First stage F statistic			46.5			46.5

	Playoff Seed Earned_s^{P2}			Indicator for Making Playoffs_s^{P2}		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins_{s-1}^{P1}	0.261***		-0.075	0.244***		-0.246
	(0.043)		(0.158)	(0.036)		(0.157)
Reg. Season WAE_{s-1}^{P1}		-0.021			-0.070*	
		(0.044)			(0.041)	
Observations	781	635	635	781	635	635
First stage F statistic			46.5			46.5

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 16: EFFECTIVE WINS$_{s-1}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-1}^{P1}$	0.279***		-0.032	0.218***		-0.096
	(0.039)		(0.124)	(0.047)		(0.165)
Reg. Season WAE$_{s-1}^{P1}$		-0.009			-0.027	
		(0.035)			(0.046)	
Observations	781	635	635	781	635	635
First stage F statistic			46.5			46.5

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-1}^{P1}$	0.201***		0.052	0.149***		0.070
	(0.050)		(0.188)	(0.046)		(0.155)
Reg. Season WAE$_{s-1}^{P1}$		0.015			0.020	
		(0.055)			(0.045)	
Observations	781	635	635	781	635	635
First stage F statistic			46.5			46.5

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 17: EFFECTIVE WINS$_{s-2}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-2}^{P1}$	0.238***		-0.007	0.216***		-0.002
	(0.042)		(0.130)	(0.050)		(0.155)
Reg. Season WAE$_{s-2}^{P1}$		-0.002			-0.001	
		(0.036)			(0.043)	
Observations	749	603	603	749	603	603
First stage F statistic			45.3			45.3

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-2}^{P1}$	0.247***		0.142	0.199***		-0.009
	(0.047)		(0.137)	(0.042)		(0.143)
Reg. Season WAE$_{s-2}^{P1}$		0.039			-0.002	
		(0.041)			(0.040)	
Observations	749	603	603	749	603	603
First stage F statistic			45.3			45.3

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 18: EFFECTIVE WINS$_{s-2}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-2}^{P1}$	0.222***		0.093	0.169***		0.069
	(0.042)		(0.170)	(0.053)		(0.139)
Reg. Season WAE$_{s-2}^{P1}$		0.026			0.019	
		(0.049)			(0.040)	
Observations	749	603	603	749	603	603
First stage F statistic			45.3			45.3

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-2}^{P1}$	0.096*		-0.143	0.085*		-0.156
	(0.048)		(0.143)	(0.047)		(0.125)
Reg. Season WAE$_{s-2}^{P1}$		-0.039			-0.043	
		(0.039)			(0.033)	
Observations	749	603	603	749	603	603
First stage F statistic			45.3			45.3

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 19: Effective Wins$_{s-3}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-3}^{P1}$	0.163***		-0.262*	0.114**		-0.172
	(0.049)		(0.151)	(0.054)		(0.161)
Reg. Season WAE$_{s-3}^{P1}$		-0.067*			-0.044	
		(0.035)			(0.041)	
Observations	717	571	571	717	571	571
First stage F statistic			32.2			32.2

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-3}^{P1}$	0.133**		-0.216	0.114**		-0.244
	(0.055)		(0.160)	(0.043)		(0.174)
Reg. Season WAE$_{s-3}^{P1}$		-0.055			-0.062	
		(0.040)			(0.044)	
Observations	717	571	571	717	571	571
First stage F statistic			32.2			32.2

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 20: Effective Wins$_{s-3}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-3}^{P1}$	0.076		-0.158	0.080		-0.049
	(0.052)		(0.183)	(0.055)		(0.175)
Reg. Season WAE$_{s-3}^{P1}$		-0.040			-0.013	
		(0.048)			(0.045)	
Observations	717	571	571	717	571	571
First stage F statistic			32.2			32.2

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-3}^{P1}$	0.078*		-0.090	0.102***		-0.019
	(0.044)		(0.117)	(0.034)		(0.090)
Reg. Season WAE$_{s-3}^{P1}$		-0.023			-0.005	
		(0.030)			(0.023)	
Observations	717	571	571	717	571	571
First stage F statistic			32.2			32.2

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 21: Effective Wins_{s-4}; First Four Outcomes

	Effective Wins_s^{P1}			Playoff Level Reached_s^{P3}		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins_{s-4}^{P1}	0.136**		-0.084	0.115*		0.046
	(0.051)		(0.186)	(0.060)		(0.196)
Reg. Season WAE_{s-4}^{P1}		-0.021			0.012	
		(0.047)			(0.050)	
Observations	685	539	539	685	539	539
First stage F statistic			29.2			29.2

	Playoff Seed Earned_s^{P2}			Indicator for Making Playoffs_s^{P2}		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins_{s-4}^{P1}	0.100*		0.044	0.126***		-0.061
	(0.059)		(0.211)	(0.045)		(0.181)
Reg. Season WAE_{s-4}^{P1}		0.011			-0.015	
		(0.053)			(0.045)	
Observations	685	539	539	685	539	539
First stage F statistic			29.2			29.2

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 22: EFFECTIVE WINS$_{s-4}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-4}^{P1}$	0.117**		0.104	0.052		-0.052
	(0.052)		(0.206)	(0.061)		(0.176)
Reg. Season WAE$_{s-4}^{P1}$		0.026			-0.013	
		(0.053)			(0.045)	
Observations	685	539	539	685	539	539
First stage F statistic			29.2			29.2

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-4}^{P1}$	0.063		0.246	0.047		0.017
	(0.062)		(0.172)	(0.046)		(0.180)
Reg. Season WAE$_{s-4}^{P1}$		0.062			0.004	
		(0.041)			(0.046)	
Observations	685	539	539	685	539	539
First stage F statistic			29.2			29.2

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 23: Effective Wins$_{s-5}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-5}^{P1}$	0.090		0.002	0.035		-0.017
	(0.059)		(0.171)	(0.062)		(0.163)
Reg. Season WAE$_{s-5}^{P1}$		0.000			-0.004	
		(0.042)			(0.040)	
Observations	653	507	507	653	507	507
First stage F statistic			26.7			26.7

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-5}^{P1}$	0.048		0.033	0.065		-0.194
	(0.063)		(0.176)	(0.046)		(0.148)
Reg. Season WAE$_{s-5}^{P1}$		0.008			-0.047	
		(0.043)			(0.035)	
Observations	653	507	507	653	507	507
First stage F statistic			26.7			26.7

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 24: EFFECTIVE WINS$_{s-5}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-5}^{P1}$	0.071		0.015	0.011		0.208
	(0.049)		(0.179)	(0.071)		(0.192)
Reg. Season WAE$_{s-5}^{P1}$		0.004			0.051	
		(0.044)			(0.044)	
Observations	653	507	507	653	507	507
First stage F statistic			26.7			26.7

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-5}^{P1}$	-0.060		0.093	-0.026		-0.157
	(0.065)		(0.174)	(0.054)		(0.145)
Reg. Season WAE$_{s-5}^{P1}$		0.022			-0.038	
		(0.041)			(0.036)	
Observations	653	507	507	653	507	507
First stage F statistic			26.7			26.7

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 25: EFFECTIVE WINS$_{s-6}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-6}^{P1}$	0.072		-0.296	0.096		0.007
	(0.065)		(0.215)	(0.061)		(0.184)
Reg. Season WAE$_{s-6}^{P1}$		-0.070			0.002	
		(0.048)			(0.044)	
Observations	621	475	475	621	475	475
First stage F statistic			24.2			24.2

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-6}^{P1}$	0.083		-0.112	0.097*		-0.140
	(0.070)		(0.207)	(0.054)		(0.184)
Reg. Season WAE$_{s-6}^{P1}$		-0.027			-0.033	
		(0.049)			(0.043)	
Observations	621	475	475	621	475	475
First stage F statistic			24.2			24.2

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 26: Effective Wins$_{s-6}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-6}^{P1}$	0.060		-0.141	0.065		0.020
	(0.052)		(0.187)	(0.058)		(0.194)
Reg. Season WAE$_{s-6}^{P1}$		-0.034			0.005	
		(0.045)			(0.047)	
Observations	621	475	475	621	475	475
First stage F statistic			24.2			24.2

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$_{s-6}^{P1}$	0.081		0.416**	0.077*		0.171
	(0.053)		(0.196)	(0.045)		(0.180)
Reg. Season WAE$_{s-6}^{P1}$		0.099**			0.041	
		(0.044)			(0.044)	
Observations	621	475	475	621	475	475
First stage F statistic			24.2			24.2

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 27: PLAYOFF SEED$_{s-1}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-1}^{P2}$	0.205**		1.622**	0.200**		1.289*
	(0.086)		(0.619)	(0.084)		(0.688)
Seeding Tiebreaker Index$_{s-1}^{P1}$× Tied in Playoff Hunt$_{s-1}^{P1}$		0.168***			0.133**	
		(0.045)			(0.059)	
Observations	766	766	766	766	766	766
First stage F statistic			19.6			19.6

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-1}^{P2}$	0.201**		1.569**	0.179**		1.470*
	(0.089)		(0.639)	(0.080)		(0.743)
Seeding Tiebreaker Index$_{s-1}^{P1}$× Tied in Playoff Hunt$_{s-1}^{P1}$		0.162***			0.152**	
		(0.049)			(0.058)	
Observations	766	766	766	766	766	766
First stage F statistic			19.6			19.6

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 28: Playoff Seed$_{s-1}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-1}^{P2}$	0.201**		0.922*	0.173*		0.870
	(0.087)		(0.494)	(0.092)		(0.561)
Seeding Tiebreaker Index$_{s-1}^{P1}\times$ Tied in Playoff Hunt$_{s-1}^{P1}$		0.095**			0.090	
		(0.046)			(0.053)	
Observations	766	766	766	766	766	766
First stage F statistic			19.6			19.6

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-1}^{P2}$	0.129		0.681	0.017		0.826
	(0.084)		(0.612)	(0.107)		(0.950)
Seeding Tiebreaker Index$_{s-1}^{P1}\times$ Tied in Playoff Hunt$_{s-1}^{P1}$		0.070			0.085	
		(0.059)			(0.093)	
Observations	766	766	766	766	766	766
First stage F statistic			19.6			19.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 29: PLAYOFF SEED$_{s-2}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-2}^{P2}$	0.039		0.356	0.136		-0.230
	(0.092)		(0.558)	(0.115)		(0.492)
Seeding Tiebreaker Index$_{s-2}^{P1}$× Tied in Playoff Hunt$_{s-2}^{P1}$		0.037			-0.024	
		(0.056)			(0.050)	
Observations	733	733	733	733	733	733
First stage F statistic			16.3			16.3

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-2}^{P2}$	0.110		-0.143	0.071		-0.398
	(0.099)		(0.443)	(0.092)		(0.475)
Seeding Tiebreaker Index$_{s-2}^{P1}$× Tied in Playoff Hunt$_{s-2}^{P1}$		-0.015			-0.041	
		(0.047)			(0.049)	
Observations	733	733	733	733	733	733
First stage F statistic			16.3			16.3

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 30: PLAYOFF SEED$_{s-2}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-2}^{P2}$	0.096		-0.151	0.154		-0.456
	(0.094)		(0.455)	(0.134)		(0.573)
Seeding Tiebreaker Index$_{s-2}^{P1}$× Tied in Playoff Hunt$_{s-2}^{P1}$		-0.016			-0.047	
		(0.047)			(0.057)	
Observations	733	733	733	733	733	733
First stage F statistic			16.3			16.3

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-2}^{P2}$	0.175		0.037	0.057		0.535
	(0.150)		(0.525)	(0.101)		(0.428)
Seeding Tiebreaker Index$_{s-2}^{P1}$× Tied in Playoff Hunt$_{s-2}^{P1}$		0.004			0.056	
		(0.055)			(0.045)	
Observations	733	733	733	733	733	733
First stage F statistic			16.3			16.3

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 31: Playoff Seed$_{s-3}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-3}^{P2}$	0.119		1.295**	0.117		1.016*
	(0.096)		(0.519)	(0.100)		(0.570)
Seeding Tiebreaker Index$_{s-3}^{P1}$× Tied in Playoff Hunt$_{s-3}^{P1}$		0.132***			0.104**	
		(0.041)			(0.048)	
Observations	698	698	698	698	698	698
First stage F statistic			15.7			15.7

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-3}^{P2}$	0.075		1.039*	0.037		1.120*
	(0.107)		(0.579)	(0.094)		(0.609)
Seeding Tiebreaker Index$_{s-3}^{P1}$× Tied in Playoff Hunt$_{s-3}^{P1}$		0.106**			0.115**	
		(0.051)			(0.050)	
Observations	698	698	698	698	698	698
First stage F statistic			15.7			15.7

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 32: Playoff Seed$_{s-3}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-3}^{P2}$	0.086		0.866	0.097		0.790
	(0.101)		(0.551)	(0.111)		(0.501)
Seeding Tiebreaker Index$_{s-3}^{P1}\times$ Tied in Playoff Hunt$_{s-3}^{P1}$		0.089*			0.081*	
		(0.049)			(0.047)	
Observations	698	698	698	698	698	698
First stage F statistic			15.7			15.7

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-3}^{P2}$	0.145		0.781	0.186		-0.100
	(0.104)		(0.569)	(0.136)		(0.632)
Seeding Tiebreaker Index$_{s-3}^{P1}\times$ Tied in Playoff Hunt$_{s-3}^{P1}$		0.080			-0.010	
		(0.053)			(0.065)	
Observations	698	698	698	698	698	698
First stage F statistic			15.7			15.7

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 33: Playoff Seed$_{s-4}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-4}^{P2}$	0.012		-0.190	0.003		-0.319
	(0.098)		(0.497)	(0.109)		(0.475)
Seeding Tiebreaker Index$_{s-4}^{P1}\times$ Tied in Playoff Hunt$_{s-4}^{P1}$		-0.019			-0.033	
		(0.050)			(0.047)	
Observations	666	666	666	666	666	666
First stage F statistic			13.6			13.6

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-4}^{P2}$	0.004		-0.055	-0.045		-0.427
	(0.095)		(0.495)	(0.108)		(0.527)
Seeding Tiebreaker Index$_{s-4}^{P1}\times$ Tied in Playoff Hunt$_{s-4}^{P1}$		-0.006			-0.044	
		(0.051)			(0.052)	
Observations	666	666	666	666	666	666
First stage F statistic			13.6			13.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 34: PLAYOFF SEED$_{s-4}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-4}^{P2}$	-0.140		-0.354	0.065		-0.229
	(0.102)		(0.494)	(0.085)		(0.477)
Seeding Tiebreaker Index$_{s-4}^{P1}$× Tied in Playoff Hunt$_{s-4}^{P1}$		-0.036			-0.023	
		(0.048)			(0.049)	
Observations	666	666	666	666	666	666
First stage F statistic			13.6			13.6

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-4}^{P2}$	0.170		-0.160	0.130		0.284
	(0.105)		(0.629)	(0.131)		(0.433)
Seeding Tiebreaker Index$_{s-4}^{P1}$× Tied in Playoff Hunt$_{s-4}^{P1}$		-0.016			0.029	
		(0.063)			(0.044)	
Observations	666	666	666	666	666	666
First stage F statistic			13.6			13.6

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 35: Playoff Seed$_{s-5}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-5}^{P2}$	0.027		0.398	0.032		0.295
	(0.096)		(0.649)	(0.092)		(0.530)
Seeding Tiebreaker Index$_{s-5}^{P1}$× Tied in Playoff Hunt$_{s-5}^{P1}$		0.043			0.032	
		(0.067)			(0.056)	
Observations	629	629	629	629	629	629
First stage F statistic			15.6			15.6

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-5}^{P2}$	-0.057		0.536	0.080		0.311
	(0.093)		(0.685)	(0.099)		(0.596)
Seeding Tiebreaker Index$_{s-5}^{P1}$× Tied in Playoff Hunt$_{s-5}^{P1}$		0.058			0.034	
		(0.071)			(0.063)	
Observations	629	629	629	629	629	629
First stage F statistic			15.6			15.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 36: Playoff Seed$_{s-5}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-5}^{P2}$	0.061		0.572	-0.081		-0.022
	(0.095)		(0.689)	(0.087)		(0.528)
Seeding Tiebreaker Index$_{s-5}^{P1}\times$ Tied in Playoff Hunt$_{s-5}^{P1}$		0.062			-0.002	
		(0.069)			(0.057)	
Observations	629	629	629	629	629	629
First stage F statistic			15.6			15.6

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-5}^{P2}$	-0.058		-0.181	0.109		0.280
	(0.106)		(0.360)	(0.100)		(0.425)
Seeding Tiebreaker Index$_{s-5}^{P1}\times$ Tied in Playoff Hunt$_{s-5}^{P1}$		-0.020			0.030	
		(0.039)			(0.045)	
Observations	629	629	629	629	629	629
First stage F statistic			15.6			15.6

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 37: PLAYOFF SEED$_{s-6}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-6}^{P2}$	-0.024		-0.704	-0.047		-0.623
	(0.125)		(0.463)	(0.116)		(0.490)
Seeding Tiebreaker Index$_{s-6}^{P1}$× Tied in Playoff Hunt$_{s-6}^{P1}$		-0.075			-0.066	
		(0.052)			(0.056)	
Observations	596	596	596	596	596	596
First stage F statistic			15.1			15.1

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-6}^{P2}$	-0.003		-0.611	0.002		-0.625
	(0.111)		(0.513)	(0.113)		(0.528)
Seeding Tiebreaker Index$_{s-6}^{P1}$× Tied in Playoff Hunt$_{s-6}^{P1}$		-0.065			-0.067	
		(0.056)			(0.058)	
Observations	596	596	596	596	596	596
First stage F statistic			15.1			15.1

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 38: PLAYOFF SEED$_{s-6}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-6}^{P2}$	-0.064		-0.617	-0.039		-0.403
	(0.110)		(0.585)	(0.091)		(0.536)
Seeding Tiebreaker Index$_{s-6}^{P1}$× Tied in Playoff Hunt$_{s-6}^{P1}$		-0.066			-0.043	
		(0.062)			(0.059)	
Observations	596	596	596	596	596	596
First stage F statistic			15.1			15.1

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$_{s-6}^{P2}$	0.007		-0.212	-0.137		-0.398
	(0.119)		(0.558)	(0.115)		(0.502)
Seeding Tiebreaker Index$_{s-6}^{P1}$× Tied in Playoff Hunt$_{s-6}^{P1}$		-0.023			-0.042	
		(0.062)			(0.058)	
Observations	596	596	596	596	596	596
First stage F statistic			15.1			15.1

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 39: PLAYOFF LEVEL$_{s-1}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-1}^{P3}$	0.125**		0.064	0.020		-0.235
	(0.060)		(0.162)	(0.085)		(0.182)
Playoff WAE among 1 & 2 seeds$_{s-1}^{P3}$		0.014			-0.015	
		(0.031)			(0.048)	
Playoff WAE among 3 to 6 seeds$_{s-1}^{P3}$		0.008			-0.053	
		(0.042)			(0.035)	
Observations	661	661	661	661	661	661
First stage F statistic			23.6			23.6

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-1}^{P3}$	0.078		-0.074	0.072		-0.018
	(0.091)		(0.221)	(0.068)		(0.157)
Playoff WAE among 1 & 2 seeds$_{s-1}^{P3}$		-0.019			-0.021	
		(0.040)			(0.034)	
Playoff WAE among 3 to 6 seeds$_{s-1}^{P3}$		-0.007			0.008	
		(0.050)			(0.037)	
Observations	661	661	661	661	661	661
First stage F statistic			23.6			23.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 40: Playoff Level$_{s-1}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-1}^{P3}$	0.140		-0.080	-0.100		-0.368**
	(0.094)		(0.190)	(0.083)		(0.175)
Playoff WAE among 1 & 2 seeds$_{s-1}^{P3}$		-0.039			0.002	
		(0.042)			(0.053)	
Playoff WAE among 3 to 6 seeds$_{s-1}^{P3}$		0.004			-0.099***	
		(0.039)			(0.028)	
Observations	661	661	661	661	661	661
First stage F statistic			23.6			23.6

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-1}^{P3}$	-0.119		-0.499**	-0.040		-0.144
	(0.085)		(0.238)	(0.092)		(0.190)
Playoff WAE among 1 & 2 seeds$_{s-1}^{P3}$		-0.007			0.046	
		(0.065)			(0.052)	
Playoff WAE among 3 to 6 seeds$_{s-1}^{P3}$		-0.128***			-0.067	
		(0.046)			(0.045)	
Observations	661	661	661	661	661	661
First stage F statistic			23.6			23.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 41: Playoff Level$_{s-2}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$^{P3}_{s-2}$	0.081		0.078	0.056		0.074
	(0.074)		(0.144)	(0.090)		(0.209)
Playoff WAE among 1 & 2 seeds$^{P3}_{s-2}$		0.021			0.036	
		(0.039)			(0.058)	
Playoff WAE among 3 to 6 seeds$^{P3}_{s-2}$		0.008			-0.002	
		(0.032)			(0.038)	
Observations	658	658	658	658	658	658
First stage F statistic			25.5			25.5

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$^{P3}_{s-2}$	-0.006		-0.107	0.088		-0.065
	(0.082)		(0.173)	(0.072)		(0.214)
Playoff WAE among 1 & 2 seeds$^{P3}_{s-2}$		-0.003			-0.009	
		(0.043)			(0.038)	
Playoff WAE among 3 to 6 seeds$^{P3}_{s-2}$		-0.026			-0.011	
		(0.034)			(0.052)	
Observations	658	658	658	658	658	658
First stage F statistic			25.5			25.5

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 42: Playoff Level$_{s-2}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-2}^{P3}$	0.028		0.031	-0.029		-0.035
	(0.085)		(0.223)	(0.077)		(0.158)
Playoff WAE among 1 & 2 seeds$_{s-2}^{P3}$		-0.018			0.005	
		(0.047)			(0.052)	
Playoff WAE among 3 to 6 seeds$_{s-2}^{P3}$		0.019			-0.012	
		(0.049)			(0.019)	
Observations	658	658	658	658	658	658
First stage F statistic			25.5			25.5

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-2}^{P3}$	0.063		0.300	0.080		0.316
	(0.098)		(0.224)	(0.139)		(0.290)
Playoff WAE among 1 & 2 seeds$_{s-2}^{P3}$		0.141**			0.139	
		(0.063)			(0.101)	
Playoff WAE among 3 to 6 seeds$_{s-2}^{P3}$		-0.005			0.001	
		(0.020)			(0.013)	
Observations	658	658	658	658	658	658
First stage F statistic			25.5			25.5

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 43: Playoff Level$_{s-3}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$^{P3}_{s-3}$	0.066		-0.179	0.059		-0.209
	(0.069)		(0.153)	(0.108)		(0.180)
Playoff WAE among 1 & 2 seeds$^{P3}_{s-3}$		0.013			0.026	
		(0.043)			(0.064)	
Playoff WAE among 3 to 6 seeds$^{P3}_{s-3}$		-0.054			-0.070***	
		(0.032)			(0.025)	
Observations	656	656	656	656	656	656
First stage F statistic			30.3			30.3

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$^{P3}_{s-3}$	0.020		-0.245	-0.043		-0.301**
	(0.096)		(0.173)	(0.081)		(0.142)
Playoff WAE among 1 & 2 seeds$^{P3}_{s-3}$		0.036			0.026	
		(0.052)			(0.044)	
Playoff WAE among 3 to 6 seeds$^{P3}_{s-3}$		-0.085***			-0.093***	
		(0.030)			(0.027)	
Observations	656	656	656	656	656	656
First stage F statistic			30.3			30.3

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 44: PLAYOFF LEVEL$_{s-3}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-3}^{P3}$	-0.057		-0.272	0.144		-0.020
	(0.096)		(0.163)	(0.113)		(0.187)
Playoff WAE among 1 & 2 seeds$_{s-3}^{P3}$		0.036			0.039	
		(0.046)			(0.064)	
Playoff WAE among 3 to 6 seeds$_{s-3}^{P3}$		-0.092***			-0.028	
		(0.028)			(0.025)	
Observations	656	656	656	656	656	656
First stage F statistic			30.3			30.3

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-3}^{P3}$	0.211		0.011	0.143		-0.062
	(0.134)		(0.231)	(0.118)		(0.198)
Playoff WAE among 1 & 2 seeds$_{s-3}^{P3}$		0.011			-0.052	
		(0.075)			(0.078)	
Playoff WAE among 3 to 6 seeds$_{s-3}^{P3}$		-0.003			0.015	
		(0.037)			(0.017)	
Observations	656	656	656	656	656	656
First stage F statistic			30.3			30.3

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 45: Playoff Level$_{s-4}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-4}^{P3}$	0.072		0.042	0.097		0.284
	(0.068)		(0.185)	(0.086)		(0.226)
Playoff WAE among 1 & 2 seeds$_{s-4}^{P3}$		0.087**			0.112**	
		(0.037)			(0.046)	
Playoff WAE among 3 to 6 seeds$_{s-4}^{P3}$		-0.041			0.006	
		(0.033)			(0.046)	
Observations	652	652	652	652	652	652
First stage F statistic			26.2			26.2

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-4}^{P3}$	0.044		-0.041	0.028		-0.018
	(0.066)		(0.172)	(0.078)		(0.194)
Playoff WAE among 1 & 2 seeds$_{s-4}^{P3}$		0.065			0.104***	
		(0.050)			(0.032)	
Playoff WAE among 3 to 6 seeds$_{s-4}^{P3}$		-0.049			-0.065**	
		(0.029)			(0.032)	
Observations	652	652	652	652	652	652
First stage F statistic			26.2			26.2

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 46: Playoff Level$_{s-4}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-4}^{P3}$	0.129		0.289	0.066		0.251
	(0.080)		(0.222)	(0.099)		(0.197)
Playoff WAE among 1 & 2 seeds$_{s-4}^{P3}$		0.123***			0.053	
		(0.034)			(0.050)	
Playoff WAE among 3 to 6 seeds$_{s-4}^{P3}$		0.000			0.032	
		(0.043)			(0.038)	
Observations	652	652	652	652	652	652
First stage F statistic			26.2			26.2

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-4}^{P3}$	0.064		0.336	0.125		0.540**
	(0.097)		(0.249)	(0.112)		(0.234)
Playoff WAE among 1 & 2 seeds$_{s-4}^{P3}$		0.050			0.087**	
		(0.072)			(0.043)	
Playoff WAE among 3 to 6 seeds$_{s-4}^{P3}$		0.055			0.084	
		(0.049)			(0.064)	
Observations	652	652	652	652	652	652
First stage F statistic			26.2			26.2

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 47: PLAYOFF LEVEL$_{s-5}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-5}^{P3}$	0.032		-0.130	0.012		-0.187
	(0.066)		(0.177)	(0.068)		(0.155)
Playoff WAE among 1 & 2 seeds$_{s-5}^{P3}$		0.031			0.010	
		(0.038)			(0.040)	
Playoff WAE among 3 to 6 seeds$_{s-5}^{P3}$		-0.049			-0.051	
		(0.041)			(0.034)	
Observations	647	647	647	647	647	647
First stage F statistic			23.6			23.6

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-5}^{P3}$	0.011		-0.242	0.101		-0.100
	(0.069)		(0.164)	(0.070)		(0.156)
Playoff WAE among 1 & 2 seeds$_{s-5}^{P3}$		-0.011			0.009	
		(0.036)			(0.048)	
Playoff WAE among 3 to 6 seeds$_{s-5}^{P3}$		-0.053			-0.029	
		(0.031)			(0.031)	
Observations	647	647	647	647	647	647
First stage F statistic			23.6			23.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 48: Playoff Level$_{s-5}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-5}^{P3}$	-0.003		-0.231	-0.103		-0.075
	(0.070)		(0.143)	(0.078)		(0.175)
Playoff WAE among 1 & 2 seeds$_{s-5}^{P3}$		0.008			0.034	
		(0.041)			(0.035)	
Playoff WAE among 3 to 6 seeds$_{s-5}^{P3}$		-0.060*			-0.037	
		(0.032)			(0.036)	
Observations	647	647	647	647	647	647
First stage F statistic			23.6			23.6

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-5}^{P3}$	0.029		-0.151	-0.023		-0.219
	(0.076)		(0.159)	(0.038)		(0.172)
Playoff WAE among 1 & 2 seeds$_{s-5}^{P3}$		-0.009			-0.019	
		(0.016)			(0.021)	
Playoff WAE among 3 to 6 seeds$_{s-5}^{P3}$		-0.032			-0.043	
		(0.038)			(0.045)	
Observations	647	647	647	647	647	647
First stage F statistic			23.6			23.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 49: PLAYOFF LEVEL$_{s-6}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-6}^{P3}$	0.156*		0.041	-0.012		-0.155
	(0.081)		(0.193)	(0.082)		(0.170)
Playoff WAE among 1 & 2 seeds$_{s-6}^{P3}$		0.124***			0.052**	
		(0.037)			(0.023)	
Playoff WAE among 3 to 6 seeds$_{s-6}^{P3}$		-0.054			-0.064	
		(0.037)			(0.040)	
Observations	615	615	615	615	615	615
First stage F statistic			21.6			21.6

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-6}^{P3}$	0.088		-0.010	0.137		-0.046
	(0.082)		(0.177)	(0.101)		(0.188)
Playoff WAE among 1 & 2 seeds$_{s-6}^{P3}$		0.091**			0.061	
		(0.033)			(0.038)	
Playoff WAE among 3 to 6 seeds$_{s-6}^{P3}$		-0.050			-0.043	
		(0.037)			(0.041)	
Observations	615	615	615	615	615	615
First stage F statistic			21.6			21.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 50: Playoff Level$_{s-6}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-6}^{P3}$	-0.041		-0.229	-0.014		-0.015
	(0.092)		(0.165)	(0.080)		(0.239)
Playoff WAE among 1 & 2 seeds$_{s-6}^{P3}$		0.037			0.053	
		(0.027)			(0.038)	
Playoff WAE among 3 to 6 seeds$_{s-6}^{P3}$		-0.075*			-0.031	
		(0.038)			(0.053)	
Observations	615	615	615	615	615	615
First stage F statistic			21.6			21.6

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_{s-6}^{P3}$	-0.114*		-0.122	-0.179*		-0.280
	(0.057)		(0.153)	(0.101)		(0.182)
Playoff WAE among 1 & 2 seeds$_{s-6}^{P3}$		0.037			-0.021	
		(0.026)			(0.026)	
Playoff WAE among 3 to 6 seeds$_{s-6}^{P3}$		-0.049			-0.057	
		(0.033)			(0.043)	
Observations	615	615	615	615	615	615
First stage F statistic			21.6			21.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 51: DRAFT ENDOWMENT$_{s-1}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-1}^{P4}$	0.071		-1.704*	0.011		-2.132**
	(0.178)		(0.905)	(0.148)		(0.923)
CorrSOS$_{s-1}^{P1}\times$ Tie Impact Index$_{s-1}^{P3}$		-1.013*			-1.281**	
		(0.524)			(0.497)	
Observations	781	781	781	781	781	781
First stage F statistic			45.0			45.0

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-1}^{P4}$	-0.024		-1.704*	-0.083		-1.961*
	(0.155)		(0.866)	(0.160)		(1.045)
CorrSOS$_{s-1}^{P1}\times$ Tie Impact Index$_{s-1}^{P3}$		-1.009**			-1.166*	
		(0.445)			(0.599)	
Observations	781	781	781	781	781	781
First stage F statistic			45.0			45.0

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 52: DRAFT POSITION$_{s-1}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-1}^{P4}$	0.080		-1.482	0.015		-2.214**
	(0.166)		(1.032)	(0.147)		(0.892)
CorrSOS$_{s-1}^{P1}\times$ Tie Impact Index$_{s-1}^{P3}$		-0.897			-1.331**	
		(0.559)			(0.491)	
Observations	781	781	781	781	781	781
First stage F statistic			45.0			45.0

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-1}^{P4}$	0.013		-1.549*	0.068		-0.715
	(0.113)		(0.816)	(0.136)		(0.891)
CorrSOS$_{s-1}^{P1}\times$ Tie Impact Index$_{s-1}^{P3}$		-0.938*			-0.437	
		(0.483)			(0.565)	
Observations	781	781	781	781	781	781
First stage F statistic			45.0			45.0

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 53: DRAFT ENDOWMENT$_{s-2}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-2}^{P4}$	-0.142		0.445	-0.083		-0.523
	(0.144)		(1.112)	(0.140)		(1.162)
CorrSOS$_{s-2}^{P1}\times$ Tie Impact Index$_{s-2}^{P3}$		0.247			-0.311	
		(0.655)			(0.696)	
Observations	749	749	749	749	749	749
First stage F statistic			40.5			40.5

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-2}^{P4}$	-0.118		-0.856	-0.029		0.402
	(0.134)		(1.282)	(0.144)		(1.115)
CorrSOS$_{s-2}^{P1}\times$ Tie Impact Index$_{s-2}^{P3}$		-0.494			0.246	
		(0.766)			(0.651)	
Observations	749	749	749	749	749	749
First stage F statistic			40.5			40.5

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 54: DRAFT ENDOWMENT$_{s-2}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$^{P4}_{s-2}$	-0.154		-0.814	-0.073		-1.302
	(0.175)		(1.160)	(0.140)		(1.236)
CorrSOS$^{P1}_{s-2}\times$ Tie Impact Index$^{P3}_{s-2}$		-0.456			-0.776	
		(0.674)			(0.729)	
Observations	749	749	749	749	749	749
First stage F statistic			40.5			40.5

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$^{P4}_{s-2}$	0.069		-0.155	-0.125		-0.387
	(0.135)		(1.495)	(0.119)		(1.207)
CorrSOS$^{P1}_{s-2}\times$ Tie Impact Index$^{P3}_{s-2}$		-0.138			-0.249	
		(0.891)			(0.715)	
Observations	749	749	749	749	749	749
First stage F statistic			40.5			40.5

Note: These regressions use variables from seasons $s - n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 55: Draft Endowment$_{s-3}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-3}^{P4}$	-0.350*		-1.925**	-0.034		-1.644
	(0.201)		(0.872)	(0.196)		(1.041)
CorrSOS$_{s-3}^{P1}\times$ Tie Impact Index$_{s-3}^{P3}$		-1.112**			-0.946	
		(0.521)			(0.630)	
Observations	717	717	717	717	717	717
First stage F statistic			36.0			36.0

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-3}^{P4}$	-0.261		-2.352*	-0.269		-2.621**
	(0.194)		(1.212)	(0.182)		(1.123)
CorrSOS$_{s-3}^{P1}\times$ Tie Impact Index$_{s-3}^{P3}$		-1.358*			-1.514**	
		(0.722)			(0.707)	
Observations	717	717	717	717	717	717
First stage F statistic			36.0			36.0

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 56: Draft Endowment$_{s-3}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-3}^{P4}$	-0.109		-1.693	0.132		-0.672
	(0.196)		(1.154)	(0.200)		(1.205)
CorrSOS$_{s-3}^{P1}\times$ Tie Impact Index$_{s-3}^{P3}$		-0.971			-0.387	
		(0.682)			(0.692)	
Observations	717	717	717	717	717	717
First stage F statistic			36.0			36.0

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-3}^{P4}$	0.206		-0.103	0.219		0.380
	(0.178)		(0.776)	(0.220)		(0.849)
CorrSOS$_{s-3}^{P1}\times$ Tie Impact Index$_{s-3}^{P3}$		-0.058			0.229	
		(0.452)			(0.480)	
Observations	717	717	717	717	717	717
First stage F statistic			36.0			36.0

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 57: DRAFT ENDOWMENT$_{s-4}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-4}^{P4}$	-0.374*		-1.970*	-0.236		-2.705**
	(0.194)		(1.115)	(0.173)		(1.164)
CorrSOS$_{s-4}^{P1}\times$ Tie Impact Index$_{s-4}^{P3}$		-1.109			-1.524**	
		(0.666)			(0.667)	
Observations	685	685	685	685	685	685
First stage F statistic			31.4			31.4

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-4}^{P4}$	-0.291		-2.631*	-0.199		-2.111
	(0.180)		(1.343)	(0.185)		(1.298)
CorrSOS$_{s-4}^{P1}\times$ Tie Impact Index$_{s-4}^{P3}$		-1.487*			-1.194	
		(0.802)			(0.741)	
Observations	685	685	685	685	685	685
First stage F statistic			31.4			31.4

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 58: Draft Endowment$_{s-4}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-4}^{P4}$	-0.305		-1.526	-0.122		-3.075***
	(0.181)		(1.059)	(0.196)		(1.024)
CorrSOS$_{s-4}^{P1}$ × Tie Impact Index$_{s-4}^{P3}$		-0.841			-1.729***	
		(0.651)			(0.558)	
Observations	685	685	685	685	685	685
First stage F statistic			31.4			31.4

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-4}^{P4}$	-0.078		-2.465*	-0.148		-1.655*
	(0.191)		(1.258)	(0.139)		(0.961)
CorrSOS$_{s-4}^{P1}$ × Tie Impact Index$_{s-4}^{P3}$		-1.404**			-0.949*	
		(0.663)			(0.535)	
Observations	685	685	685	685	685	685
First stage F statistic			31.4			31.4

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 59: DRAFT ENDOWMENT$_{s-5}$; FIRST FOUR OUTCOMES

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-5}^{P4}$	-0.025		-1.126	-0.110		-0.683
	(0.163)		(0.920)	(0.222)		(0.866)
CorrSOS$_{s-5}^{P1}\times$ Tie Impact Index$_{s-5}^{P3}$		-0.686			-0.428	
		(0.532)			(0.502)	
Observations	653	653	653	653	653	653
First stage F statistic			32.3			32.3

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-5}^{P4}$	-0.238		-1.459	-0.110		-0.633
	(0.202)		(1.087)	(0.198)		(1.197)
CorrSOS$_{s-5}^{P1}\times$ Tie Impact Index$_{s-5}^{P3}$		-0.855			-0.399	
		(0.602)			(0.683)	
Observations	653	653	653	653	653	653
First stage F statistic			32.3			32.3

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 60: Draft Endowment$_{s-5}$; Second Four Outcomes

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$^{P4}_{s-5}$	-0.054		-0.193	-0.144		-1.352*
	(0.219)		(1.240)	(0.194)		(0.755)
CorrSOS$^{P1}_{s-5}\times$ Tie Impact Index$^{P3}_{s-5}$		-0.155			-0.805*	
		(0.706)			(0.397)	
Observations	653	653	653	653	653	653
First stage F statistic			32.3			32.3

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$^{P4}_{s-5}$	-0.105		-0.542	0.023		0.356
	(0.231)		(0.512)	(0.219)		(0.746)
CorrSOS$^{P1}_{s-5}\times$ Tie Impact Index$^{P3}_{s-5}$		-0.309			0.197	
		(0.305)			(0.423)	
Observations	653	653	653	653	653	653
First stage F statistic			32.3			32.3

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 61: Draft Endowment$_{s-6}$; First Four Outcomes

	Effective Wins$_s^{P1}$			Playoff Level Reached$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-6}^{P4}$	0.130		-3.212**	-0.071		-3.676**
	(0.211)		(1.264)	(0.203)		(1.558)
CorrSOS$_{s-6}^{P1}\times$ Tie Impact Index$_{s-6}^{P3}$		-1.665***			-1.868**	
		(0.557)			(0.702)	
Observations	621	621	621	621	621	621
First stage F statistic			26.6			26.6

	Playoff Seed Earned$_s^{P2}$			Indicator for Making Playoffs$_s^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-6}^{P4}$	-0.127		-3.434**	0.019		-2.846**
	(0.216)		(1.335)	(0.195)		(1.114)
CorrSOS$_{s-6}^{P1}\times$ Tie Impact Index$_{s-6}^{P3}$		-1.782***			-1.508***	
		(0.620)			(0.532)	
Observations	621	621	621	621	621	621
First stage F statistic			26.6			26.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 62: DRAFT ENDOWMENT$_{s-6}$; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$_s^{P3}$			Indicator for Making it to Conf. Championship$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-6}^{P4}$	-0.068		-2.790**	0.014		-3.671**
	(0.235)		(1.314)	(0.203)		(1.669)
CorrSOS$_{s-6}^{P1}\times$ Tie Impact Index$_{s-6}^{P3}$		-1.355**			-1.897**	
		(0.604)			(0.798)	
Observations	621	621	621	621	621	621
First stage F statistic			26.6			26.6

	Indicator for Making Super Bowl$_s^{P3}$			Indicator for Winning Super Bowl$_s^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$_{s-6}^{P4}$	-0.184		-3.021	-0.196		-1.936
	(0.188)		(2.016)	(0.187)		(1.864)
CorrSOS$_{s-6}^{P1}\times$ Tie Impact Index$_{s-6}^{P3}$		-1.464*			-1.013	
		(0.861)			(0.973)	
Observations	621	621	621	621	621	621
First stage F statistic			26.6			26.6

Note: These regressions use variables from seasons $s-n$ to predict outcomes in season s; n is listed in the independent variable labels and the table heading. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 63: EFFECTIVE WINS PLACEBO; FIRST FOUR OUTCOMES

	Effective Wins$^{P1}_{s-1}$			Playoff Level Reached$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$^{P1}_{s}$	0.312***		0.071	0.292***		0.102
	(0.043)		(0.115)	(0.048)		(0.126)
Reg. Season WAE$^{P1}_{s}$		0.020			0.029	
		(0.035)			(0.038)	
Observations	781	665	665	781	665	665
First stage F statistic			47.7			47.7

	Playoff Seed Earned$^{P2}_{s-1}$			Indicator for Making Playoffs$^{P2}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$^{P1}_{s}$	0.268***		0.009	0.309***		0.152
	(0.048)		(0.139)	(0.037)		(0.113)
Reg. Season WAE$^{P1}_{s}$		0.003			0.044	
		(0.041)			(0.036)	
Observations	781	665	665	781	665	665
First stage F statistic			47.7			47.7

Note: These placebo regressions use variables from season s to predict outcomes in season $s-1$. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 64: Effective Wins Placebo; Second Four Outcomes

	Indicator for Making it to Div. Round$^{P3}_{s-1}$			Indicator for Making it to Conf. Championship$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$^{P1}_s$	0.280***		0.106	0.260***		0.167
	(0.036)		(0.120)	(0.044)		(0.122)
Reg. Season WAE$^{P1}_s$		0.031			0.048	
		(0.037)			(0.037)	
Observations	781	665	665	781	665	665
First stage F statistic			47.7			47.7

	Indicator for Making Super Bowl$^{P3}_{s-1}$			Indicator for Winning Super Bowl$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Effective Wins$^{P1}_s$	0.220***		-0.046	0.161***		0.021
	(0.054)		(0.132)	(0.046)		(0.109)
Reg. Season WAE$^{P1}_s$		-0.013			0.006	
		(0.038)			(0.032)	
Observations	781	665	665	781	665	665
First stage F statistic			47.7			47.7

Note: These placebo regressions use variables from season s to predict outcomes in season $s-1$. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the the amount of effective wins for the team in the given season (standardized within sample). The reduced-form regression includes a team's wins above expected in the regular season (standardized within sample). The IV regression uses this wins above expected variable to instrument for effective wins. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 65: Playoff Seed Placebo; First Four Outcomes

	Effective Wins$^{P1}_{s-1}$			Playoff Level Reached$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$^{P2}_{s}$	0.085		-0.315	0.096		-0.912*
	(0.079)		(0.366)	(0.087)		(0.507)
Seeding Tiebreaker Index$^{P1}_{s}\times$ Tied in Playoff Hunt$^{P1}_{s}$		-0.034			-0.098*	
		(0.040)			(0.055)	
Observations	766	766	766	766	766	766
First stage F statistic			25.3			25.3

	Playoff Seed Earned$^{P2}_{s-1}$			Indicator for Making Playoffs$^{P2}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$^{P2}_{s}$	0.157*		-0.822	0.059		-0.466
	(0.083)		(0.490)	(0.085)		(0.398)
Seeding Tiebreaker Index$^{P1}_{s}\times$ Tied in Playoff Hunt$^{P1}_{s}$		-0.089			-0.050	
		(0.054)			(0.043)	
Observations	766	766	766	766	766	766
First stage F statistic			25.3			25.3

Note: These placebo regressions use variables from season s to predict outcomes in season $s-1$. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 66: Playoff Seed Placebo; Second Four Outcomes

	Indicator for Making it to Div. Round$^{P3}_{s-1}$			Indicator for Making it to Conf. Championship$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$^{P2}_{s}$	0.122		-0.792	0.136		-0.844
	(0.082)		(0.591)	(0.093)		(0.509)
Seeding Tiebreaker Index$^{P1}_{s}\times$ Tied in Playoff Hunt$^{P1}_{s}$		-0.085			-0.091	
		(0.065)			(0.057)	
Observations	766	766	766	766	766	766
First stage F statistic			25.3			25.3

	Indicator for Making Super Bowl$^{P3}_{s-1}$			Indicator for Winning Super Bowl$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Seed$^{P2}_{s}$	0.004		-0.947*	0.021		-0.499
	(0.114)		(0.511)	(0.085)		(0.474)
Seeding Tiebreaker Index$^{P1}_{s}\times$ Tied in Playoff Hunt$^{P1}_{s}$		-0.102*			-0.054	
		(0.056)			(0.050)	
Observations	766	766	766	766	766	766
First stage F statistic			25.3			25.3

Note: These placebo regressions use variables from season s to predict outcomes in season $s-1$. Each of these regressions control for the seeding tiebreaking index, the three-level variable representing how much a team will be impacted by a tiebreaker (both standardized within sample), strength of schedule, and regular season effective wins (treated continuously). Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff seed attained by the team (smallest for not making the playoffs, largest for attaining the conference's top seed; standardized within sample). The reduced-form regression includes a DiD interaction (standardized within sample) between the seeding tiebreaking index and the three-level variable representing how much a team will be impacted by a tiebreaker. The IV regression uses this DiD interaction variable to instrument for the playoff seed. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 67: Playoff Level Placebo; First Four Outcomes

	Effective Wins$_{s-1}^{P1}$			Playoff Level Reached$_{s-1}^{P3}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_s^{P3}$	0.251***		0.280*	0.163*		0.349*
	(0.063)		(0.164)	(0.093)		(0.195)
Playoff WAE among 1 & 2 seeds$_s^{P3}$		0.020			0.025	
		(0.023)			(0.028)	
Playoff WAE among 3 to 6 seeds$_s^{P3}$		0.066			0.082*	
		(0.040)			(0.048)	
Observations	661	661	661	661	661	661
First stage F statistic			27.2			27.2

	Playoff Seed Earned$_{s-1}^{P2}$			Indicator for Making Playoffs$_{s-1}^{P2}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$_s^{P3}$	0.228***		0.292	0.225***		0.284*
	(0.072)		(0.225)	(0.059)		(0.143)
Playoff WAE among 1 & 2 seeds$_s^{P3}$		0.036			0.003	
		(0.031)			(0.021)	
Playoff WAE among 3 to 6 seeds$_s^{P3}$		0.058			0.079**	
		(0.053)			(0.034)	
Observations	661	661	661	661	661	661
First stage F statistic			27.2			27.2

Note: These placebo regressions use variables from season s to predict outcomes in season $s-1$. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 68: Playoff Level Placebo; Second Four Outcomes

	Indicator for Making it to Div. Round$^{P3}_{s-1}$			Indicator for Making it to Conf. Championship$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$^{P3}_{s}$	0.187***		0.253	0.173*		0.268
	(0.065)		(0.189)	(0.090)		(0.226)
Playoff WAE among 1 & 2 seeds$^{P3}_{s}$		-0.033			0.010	
		(0.033)			(0.038)	
Playoff WAE among 3 to 6 seeds$^{P3}_{s}$		0.095**			0.070	
		(0.039)			(0.055)	
Observations	661	661	661	661	661	661
First stage F statistic			27.2			27.2

	Indicator for Making Super Bowl$^{P3}_{s-1}$			Indicator for Winning Super Bowl$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Playoff Level$^{P3}_{s}$	0.155		0.542**	-0.007		0.072
	(0.110)		(0.231)	(0.110)		(0.137)
Playoff WAE among 1 & 2 seeds$^{P3}_{s}$		0.098**			0.043*	
		(0.037)			(0.025)	
Playoff WAE among 3 to 6 seeds$^{P3}_{s}$		0.086			-0.009	
		(0.052)			(0.039)	
Observations	661	661	661	661	661	661
First stage F statistic			27.2			27.2

Note: These placebo regressions use variables from season s to predict outcomes in season $s-1$. Each of these regressions control for regular season effective wins (treated continuously) and dummies for each playoff seed. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the playoff level attained by the team (smallest for not making the playoffs, largest for winning the Super Bowl; standardized within sample). The reduced-form regression includes both a team's playoff wins above expected interacted with a dummy for whether a team played wild card weekend, as well as their playoff wins above expected interacted with a dummy for whether a team had a first-round bye (both standardized within sample). The IV regression uses these two playoff wins above expected terms to instrument for the playoff level. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 69: Draft Endowment Placebo; First Four Outcomes

	Effective Wins$^{P1}_{s-1}$			Playoff Level Reached$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$^{P4}_{s}$	-0.140		-0.015	0.148		-0.719
	(0.235)		(0.876)	(0.157)		(1.060)
CorrSOS$^{P1}_{s}\times$ Tie Impact Index$^{P3}_{s}$		-0.027			-0.433	
		(0.515)			(0.628)	
Observations	781	781	781	781	781	781
First stage F statistic			43.0			43.0

	Playoff Seed Earned$^{P2}_{s-1}$			Indicator for Making Playoffs$^{P2}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$^{P4}_{s}$	0.142		0.373	-0.341		0.105
	(0.166)		(1.074)	(0.242)		(0.903)
CorrSOS$^{P1}_{s}\times$ Tie Impact Index$^{P3}_{s}$		0.229			0.061	
		(0.630)			(0.529)	
Observations	781	781	781	781	781	781
First stage F statistic			43.0			43.0

Note: These placebo regressions use variables from season s to predict outcomes in season $s-1$. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.

Table 70: DRAFT POSITION PLACEBO; SECOND FOUR OUTCOMES

	Indicator for Making it to Div. Round$^{P3}_{s-1}$			Indicator for Making it to Conf. Championship$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$^{P4}_{s}$	0.082		0.065	0.176		-0.240
	(0.176)		(1.064)	(0.161)		(1.068)
CorrSOS$^{P1}_{s}\times$ Tie Impact Index$^{P3}_{s}$		0.056			-0.171	
		(0.617)			(0.625)	
Observations	781	781	781	781	781	781
First stage F statistic			43.0			43.0

	Indicator for Making Super Bowl$^{P3}_{s-1}$			Indicator for Winning Super Bowl$^{P3}_{s-1}$		
	Corr	RF	IV	Corr	RF	IV
	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se	$\hat{\beta}$/se
Draft Endowment$^{P4}_{s}$	0.158		-0.479	0.064		-1.671
	(0.165)		(1.048)	(0.152)		(1.126)
CorrSOS$^{P1}_{s}\times$ Tie Impact Index$^{P3}_{s}$		-0.285			-0.985	
		(0.636)			(0.623)	
Observations	781	781	781	781	781	781
First stage F statistic			43.0			43.0

Note: These placebo regressions use variables from season s to predict outcomes in season $s-1$. Each of these regressions control for the corrected strength of schedule, the tie impact index (both standardized within sample), the number of teams with the team's record within their draft group (including the team), an indicator of whether they are tied within their draft group at all, dummies for each draft order group type, dummies for each seed, dummies for each playoff level reached, and a comprehensive control for regular season effective wins, which is detailed in the Appendix. Regressions are run with the dependent variable that heads the column. The correlation regression includes as an independent variable the draft pick endowment of the team earned in the given season (smallest for good endowments, largest for poor endowments; standardized within sample). The reduced-form regression includes the DiD interaction (standardized within sample) between the corrected strength of schedule and the tie impact index. The IV regression uses this DiD interaction variable to instrument for draft endowment. Robust standard errors, clustered by team, in parentheses. * p<.1, ** p<.05, *** p<.01.