Journal of Applied Sport Management

Volume 7 | Issue 3 Article 12

1-1-2015

Deconstructing the Draft: An Evaluation of the NFL Draft as a Predictor of Team Success

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Abstract

The purpose of this investigation was to determine if the National Football League's (NFL) draft selection process aids in equalizing competitive advantage for NFL teams. This reverse order system (the draft) is said to equalize team strength by allowing weaker teams to strengthen their rosters with access to the best incoming players (Lock & Gratz, 1983). To measure this success, authors evaluated the correlation between a team's change in winning percentage and its Draft Pick Value (DPV), number of first-round picks, and total number of picks. Findings indicate a moderate positive correlation between DPV and change in winning percentage, and low positive correlations between change in winning percentage and number of first-round draft picks, and change in winning percentage and total number of picks.

Keywords: *NFL draft; competitive advantage; draft pick value*

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Introduction

The National Football League (NFL) employs some of the nation's most skilled athletes to compete in the hard-hitting, grueling game of professional football. In 1936, a selection process was created to systematically distribute players between the (then) nine professional football teams. As described by Ty Schalter (2012), Bert Bell's Philadelphia Eagles had been struggling for several seasons, and based on this poor performance, they were not attracting any new talent to help the team out of its rut. The intended purpose of Bell's draft solution was to create a selection process that is described as enabling "the weaker teams to improve themselves in relation to the better teams" (Canes, as cited in Lock & Gratz, 1983, p. 18). Thus, the NFL draft was born.

The NFL draft functions in the following way: eligible future NFL players are placed in a pool in which teams are able to select their desired player. The team with the lowest winning percentage from the previous season has the ability to select first from this pool. Teams continue selecting players in order from last year's worst team to the previous year's Super Bowl champion ("NFL draft basics," n.d.). Through this method, the draft is said to equalize team strength by allowing weaker teams to strengthen their rosters with access to the best player picks (Lock & Gratz, 1983). However, since its induction, the true validity of this process has been questioned. Taking into account both individual and team statistics, researchers have used a variety of metrics to determine the success of the draft in equalizing team strength.

While the draft is the main focus of this study, it is important to mention that there are three main additional ways of acquiring players in the NFL. First, free agency (FA) was introduced to the NFL in 1989 and is a provision where "a protected player is unable to sign with other teams without giving his old team the first chance to sign him or forcing his new club to compensate his old club if he goes elsewhere" (Freeman, 1992). Second, an undrafted free agent is a player who is neither signed in the draft nor selected as a free agent. These players are often signed onto teams as back-up players after the draft has occurred. Finally, teams may obtain players through trades with other teams or teams may trade draft positions in order to gain an advantage. Based on existing research, teams with more drafted players seem to be slightly more likely to win, while those teams with more free agent players should expect a slight decrease in their winning percentage (Bloggingtheboys.com, 2010).

The main purpose behind the NFL draft system is to create competitive balance. Competitive balance can be defined in a plethora of ways, typically focusing on the performance of a league's teams in terms of wins, losses, and championships. In a perfectly balanced environment, each team should have an equal chance to win games, make playoffs and win championships. In sports, and in particular the NFL, this is not the case. Over the past ten years, the NFL has had seven champions and 27 different teams finish in the top eight ("*Competitive balance in*,"

n.d.). Because there are only 32 teams in the league, having 27 teams make the final 8 is an impressive number, and indicates that competitive balance, overall, is reasonable. The NFL performs better than Major League Baseball (MLB) and the National Basketball Association (NBA), and only trails the National Hockey League (NHL) in being the most competitively balanced league ("*Competitive balance in*," n.d.). In a perfectly balanced NFL, the standard deviation for win-loss records would be 12.5%, though in reality the NFL's standard deviation has averaged 20% (Kuper & Szymanski, 2009).

Valuing the Draft

Once a player has declared that he will be entering into the draft, coaches, team owners, agents, and fans begin an endless process of evaluating his abilities. These evaluations can be as meticulous as reviewing collegiate play statistics or as subjective as determining which professional team's colors the player will look best in. The most common ways of valuing the draft are through NFL prospect rankings, the NFL combine, and the pick value chart.

NFL prospect rankings. In the months leading up to the NFL draft, the general public has come to value NFL prospect rankings given by pundits. These experts compile a variety of information about each athlete and then rank them based on their position as well as provide an overall ranking. While each expert has a secret formula for predicting the best future NFL stars, "Evaluating NFL draft prospects" (n.d.) disclosed that the most common attributes experts look at include character, competitiveness, mental preparation, athleticism, leadership, consistency, and injuries. Organizations such as ESPN and CBS Sports utilize teams of analysts to calculate grades and scores for the top prospects, often taking into consideration factors beyond statistics, such as the ability to create mismatches and the ability to have an impact on the game (NFL draft player rankings, n.d.). In an effort to calculate the accuracy of these rankings, researchers must compare the original rankings to the player's actual performance in the NFL over their career, and in this way they are able to improve their formula.

NFL combine. The combine is "an intense, four-day job interview in advance of the NFL Draft" (NFL.com, n.d.). During this time, players perform a series of physical and mental tests that allow teams to evaluate their preparedness for the league. These tests include the 40-yard dash, bench press, vertical jump, broad jump, three-cone drill, shuttle run, and an intelligence quiz known as the Wonderlic Test. The combination of these tests is expected to act as a predictor for a player's success in the NFL. However, the reliability of these metrics has been questioned (Robbins, 2012; Kuzmidts & Adams, 2008; Hartman, 2011).

Pick value chart. The extremely popular pick value chart (PVC) is often used to compare the value of different selection spots. Teams utilize this chart most when negotiating trades to ensure each party is receiving equal benefits. Despite its popularity and continued usage, past researchers have found this metric to be inaccurate in determining a player's future success in the league (Barney et al.,

2013). The inaccuracy of the PVC is based on the fact that this is a predictive metric used prior to a player's actual on-field performance.

Does the Draft Work?

In 2004, the San Diego Chargers selected Eli Manning with the first pick of the draft. Soon after Manning was drafted, he was traded to the New York Giants for the fourth pick, Philip Rivers, and additional draft choices. Massey and Thaler (2005) argue that the Giants could have traded down for a later pick and drafted Ben Roethlisberger seventh overall. In 2004, the seventh pick in the draft was 60% less expensive than the first pick (Massey & Thaler, 2005). The extraordinary cost the Giants paid infers that Manning's performance is highly predictable, though in reality (as of the conclusion of the 2014 season), all three quarterbacks have thrown for between 36,000 and 40,000 yards and passed between 251 and 259 touchdowns ("Philip Rivers," "Ben Roethlisberger," "Eli Manning," 2015). The fact that all three of these quarterbacks developed into starters is negligible to the reality that New York paid a higher price for a similar caliber player they could have drafted further down in the draft. The NFL draft is an imperfect science that may not create competitive balance on its own.

There are many ways to measure the success of an NFL draft pick. Pro bowl appearances, length of career, and championships won have all been considered. In addition, comparing a player to the value of when they were drafted, including players taken earlier and later in the draft, can also be used. Koz, Fraser-Thomas, and Baker (2011) defined a successful draft choice as one who has played in the most games. The researchers found that NFL first round draft choices, on average, had a longer career in the league than players selected in later rounds. Based solely on this measure, one could argue that team personnel is effective in identifying talent, and proving the merit of the draft, but critics say that first-round picks are forced to play sooner and longer due to long and expensive contracts under the previous collective bargaining agreement (CBA), or the contract between players and owners (Staw & Hoang, 1995, as cited in Koz, Fraser-Thomas & Baker, 2011).

Other researchers look at the draft in terms of potential. The option value of an NFL player regards the value he is likely to have in the future (Hendricks, DeBrock & Koenker, 2003). Drafting a player in the first round based solely on potential can be risky, and Hendricks et al. (2003) claim that first-round picks are not replaceable at a high cost, potentially limiting the talent on the team. For example, a poorly performing first-round pick who is one of the top-paid players on the team limits the ability of the front office to find talent elsewhere, due to constraints on the salary cap.

Historically looking at the draft, players from non-Division IA (D-IA) schools have been undervalued (Hendricks et al., 2003). For example, the authors showed that 34.5% of first-round picks from non D-IA schools make a Pro bowl, as compared to 29.1% of D-IA first-round picks; and this relationship is constant over the first six rounds of the draft (Hendricks et al., 2003). If teams show bias toward

players who played for major conference teams in D-IA, they may potentially miss out on other players with a better chance to make a Pro Bowl.

In 2011, the defensive leader in tackles went undrafted, and the leader in sacks was drafted in the fourth round. Two of the top three leaders in receiving yards were not drafted (Dubner, 2012). While some may say these are indications of errors in judgment, predicting future performance is difficult. In an analysis of quarterbacks, Berri and Simmons (2009) found that quarterbacks selected between picks 11–90 performed better on a per-play basis than those taken in the first 10 picks. Taller, faster, and smarter players, as tested at the NFL Combine, were more likely to be drafted first, but correlations were low regarding future success (Berri & Simmons, 2009). NFL teams make an educated guess as to the players who will have the best careers during the draft, and picks often do not pan out.

Theoretically, the NFL Draft should allow struggling teams the best opportunity to add the most talented rookies to their rosters. While this is not always the case, general managers (GM) and scouts generally do well in evaluating talent and drafting players (Boulier, Stekler, Coburn & Rankins, 2009). This is contrary to other findings presented earlier, but the authors rationalize their statement. Teams are similar in their abilities to evaluate prospects and predict future performance. The most important aspect of the study surrounds wins and losses. The teams who were most successful drafting players did not necessarily win more games (Boulier et al., 2009).

Boulier et al. (2009) studied quarterback and wide receiver draft choices. For quarterback, first-round picks were most likely to stay in the league longest (Boulier et al., 2009), but the authors did not address the role the player is in. For example, Matt Leinart was a first-round draft choice at the quarterback position in 2006, and has played seven seasons in the NFL (“*Matt Leinart,” 2013*). Length of stay in the league, however, is not a perfect measure, because Leinart has been a backup for most of his career. Expectations are deservedly high for first-round draft choices because teams often pay large prices to pick at the top of the draft. Unfortunately, it appears that drafting highest does not have enough of an effect to significantly alter win-loss records.

Competitive balance is thrown off in the NFL, because teams overvalue picking highest in the draft. When considering a value ranking, or players success in the NFL comparative to other players similarly drafted, the first overall pick did not provide more value than the last pick in round one (Massey & Thaler, 2013). It is true that many pro bowl players are first-round picks, but the price teams often pay for draft picks exceeds the benefit returned in terms of value rating. Theoretically, the value of the higher draft choice should eventually equal the combined value of all of the lesser draft choices. NFL teams often use the draft pick value chart to make these determinations. For example, the first pick is worth 3,000 points, and the 32nd pick, the last of the first round under the current format, is worth only 590 points (“Trade value chart,” 2013). Theoretically, this means the

first pick would cost just over five players drafted with the last pick of the first round. As Massey and Thaler (2013) present, the value given to drafting early is perhaps exaggerated.

Between 1988 and 1996, the tenth draft choice was worth approximately 60% of the first choice when analyzing trades (Massey & Thaler, 2013). Escalating in cost, the 10th pick was only worth 39% of the first pick in trades between 1997 and 2004 (Massey & Thaler, 2013), indicating teams are asking for much more when trading down in the draft order. While player performance when comparing rounds often favors the earlier draft picks, comparison within rounds does not lend statistically significant results (Massey & Thaler, 2013). If performance was highly predictable, these major trades would be easier to put together.

It has been determined through several studies that players selected in the earlier rounds of the draft have higher Approximate Value (AV) scores (Bloggintheboys.com, 2010; Barney et al., 2013). However, the point at which the AV begins to drop off continues to be in question. Bloggingtheboys.com (2010) found that players selected at the beginning of the second round produce a greater value than those players selected at the end of the first round. Their data also indicated that there is no correlation between when a player is selected and his eventual AV in rounds six or higher. In contrast, Barney et al. (2013) established that there were significant decreases in scores between rounds three and four, with a more gradual decline for the remaining rounds, when using both the AV and AS metric.

On its own, the NFL Draft cannot create competitive balance due to the mass uncertainty in predicting future performance. Teams overvalue the right to choose and make errors in player evaluations. In a given season, a high draft pick could influence the results of games, but over a period of time, the results of the NFL draft do not significantly alter win-loss records (Boulier et al., 2009). Given the league's hard salary cap, indicating the team cannot spend over a determined amount, and other means of acquiring players, the NFL draft cannot alone guarantee competitive balance. For every Peyton Manning, one of the most successful quarterbacks of all time, there is a Tim Couch, Akili Smith or JaMarcus Russell, players who did not perform close to the draft value they should have provided.

As noted by the examples above, a first round draft choice does not guarantee success. While it does ensure a high probability of receiving a great player, based on high school and college experience and results, there is no insurance that said player will become an NFL star. Some players are unable to make the transition from collegiate to professional football in the way they had hoped. Therefore, the draft is based on probabilities and is not a deterministic way to guarantee equity among teams. The competition that is created through this unpredictability associated with the NFL draft, and the NFL in general (never knowing what team will win from game to game), served as the basis for this study. Does the NFL draft succeed in creating equity among teams, or does the unpredictability of future performance of players win out?

Purpose and Research Questions

The purpose of this study is to determine whether the NFL draft is successful in equalizing team strength. In theory, the NFL draft should equalize team strength, and therefore results should show a team's change in winning percentage fluctuating over time on a continuum based on the median of zero. If the draft works successfully, then a team with a high draft pick value score, a large number of first-round draft picks, and a high number of overall draft picks should show a positive change in winning percentage the following year. Therefore, the research questions addressed are:

RQ1. Does a relationship exist between an NFL team's change in winning percentage and draft pick value from year to year?
RQ2. Does a relationship exist between an NFL team's change in winning percentage and their number of first round draft picks from year to year?
RQ3. Does a relationship exist between an NFL team's change in winning percentage and their total number of draft picks from year to year?

Method

Participants

In order to look at this over an extended period of time, every NFL draft from the years 2000 to 2010 was included in the sample. Within that time frame, every pick in the draft each year within all 32 NFL teams, including the Houston Texans who were created as an expansion team in 2002, was included.

Instrumentation

Data was recorded by each NFL team on a yearly basis. The data collected included change in winning percentage, draft pick value, the number of first-round draft picks, and total number of draft selections per team. A team's winning percentage was calculated by dividing the games the team won by the total games played. The change in winning percentage from year to year was calculated by subtracting the previous year's winning percentage from the current year's percentage. To determine a team's draft pick value, researchers utilized the pick value chart (PVC) (Appendix). The PVC is a way of determining draft pick value in which every pick in the draft is assigned a numerical value, and most NFL teams are rumored to be using this when planning their draft strategy. The PVC utilized only accounted for 224 picks, though from 2000 to 2010, between 246 and 262 players were selected each year. For those players selected following the 224th pick, a DPV of 1 was assigned to each. A team's total DPV was determined by combining the value assigned to each of the team's draft selections, coming up with a total score per team, per year. First-round draft picks include anyone drafted within pick No. 1 through 32 of the draft. Finally, a total number of draft picks, across all rounds, was combined to determine a team's total picks from year to year.

All draft related data collected was obtained from Pro-Football-Reference.com, a website dedicated to the statistics of NFL players and teams. Descriptive statistics on all variables can be found in Table 1.

Table 1

Descriptive Statistics of Variables Included in the Analyses

	Draft Pick Value	# of First Round Draft Picks	Total # of Draft Picks	Change in Winning %
Mean	1910.87	0.99	8.01	0.00
SD	906.12	0.52	1.90	0.23
Minimum	189.40	0.00	3.00	-0.56
Maximum	5159.00	4.00	13.00	0.63

Data Analysis

Correlations and linear regression were used to measure the success of the draft. Correlational research is used when one is interested in the degree of relationship among two or more quantitative variables (Patten, 2012). For the current study, winning percentage, DPV, number of first-round draft picks and number of total draft picks are all continuous variables whose relationships between one another can be calculated using correlations. The correlation between a team's change in winning percentage and their DPV, number of first-round picks, and total number of picks was evaluated.

Linear regression is a type of correlational analysis that allows a researcher to look at relationships among several variables (Mitchell & Jolley, 2004). Because the current study attempted to identify relationships between an NFL team's winning percentage and three separate variables (DPV, number of first-round draft picks, total number of draft picks), the regression analysis allows for all factors to be included in one analysis to determine whether they predict winning percentage, and to what extent.

Furthermore, a binary logistic regression was added to the analyses in order to determine which, if any, of the variables predict whether a team makes the playoffs three years after the draft. Using a logistic regression model, a researcher can directly estimate the probability that one of two events will happen (Nurušis, 2006). In this case, the dichotomous nature of the playoff system (making the playoffs or not) reaffirmed the use of logistic regression model as the most appropriate statistical procedure for this added analysis.

Results

Data points were collected for all 32 NFL teams over 10 years, except the Houston Texans, who were founded in 2002, so data could not be collected on them prior to that year. Total DPV ranged from a low score of 189 to a high score of 5159, with an average score of 1910. The total number of draft picks a team had ranged from 3-13, and the number of first-round picks ranged from 0-4. The weakest change in winning percentage for a team as an average over the 10-year time frame was -.0563 (Buffalo Bills) and the strongest change in winning percentage was .0625 (Atlanta Falcons), which is depicted in Figure 1.

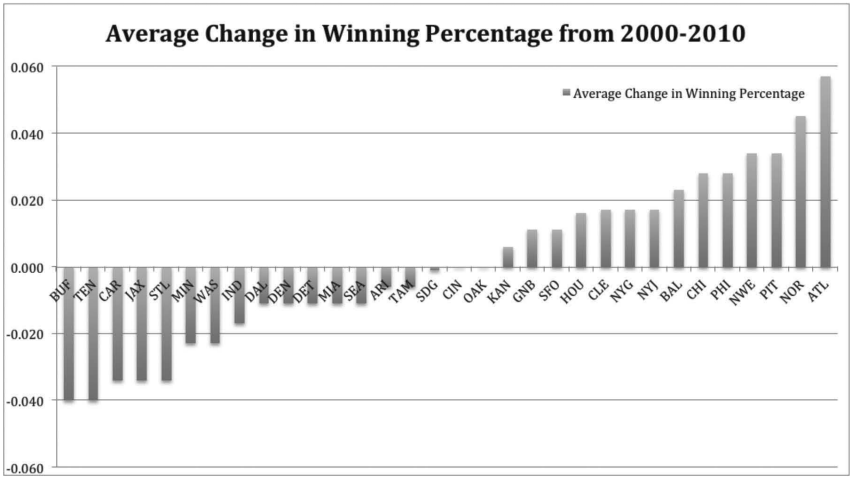

Figure 1. Average Change in Winning Percentage Over 10-Year Span

In response to all three research questions, correlations were run to determine if there was significant relationship between the change in winning percentage and draft pick value (research question 1), the number of first round draft picks (research question 2), and the total number of draft picks (research question 3). All three cases resulted in positive, statistically significant correlations. A moderate positive correlation was found between draft pick value and a change in winning percentage ($r = .422$; $p < .05$), indicating that the higher the total draft pick value of a team, the more positive change in winning percentage. For the number of first round draft picks and the total number of draft picks, the results of the correlations indicated weak positive relationships with change in winning percentage, at $r = .196$ and $r = .123$, respectively. The results from all three tests are depicted in Table 2.

Table 2

Correlation Results

	Pearson's R	Sig.
DPV and change in winning percentage	0.442	0.000
First-round picks and change in winning percentage	0.196	0.000
Total picks and change in winning percentage	0.123	0.022

Noticing that the relationship between all three factors and the change in winning percentage was significant, authors ran a regression analysis to determine the predictive value of some of these factors. A simple linear regression was run to indicate the strength at which the independent variables, draft pick value, number of first-round picks and total number of picks, could be used to predict the dependent variable, change in winning percentage. The analysis indicated that just under 20% ($R^2 = .196$) of a team's change in winning percentage can be accounted for by their draft pick value ($p < .05$). The additional two factors (first-round picks and total picks) were not significant predictors in the regression equation. Table 3 indicates the results of the regression analysis by variable; Figure 2 depicts the relationship between the change in winning percentage and DPV.

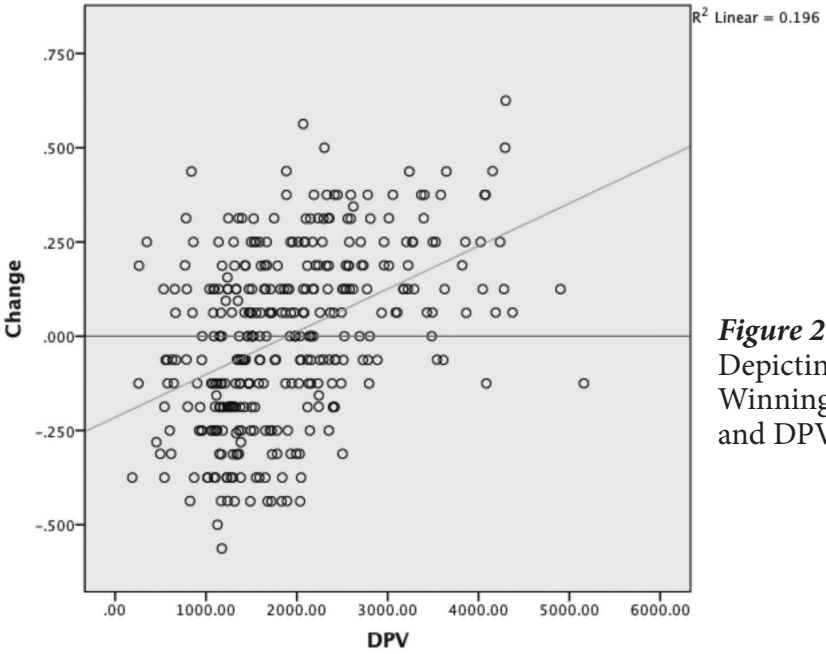

Figure 2. Scatterplot Depicting Change in Winning Percentage and DPV

If the draft is effective, then it makes sense that as a team's DPV drops, so will it's change in winning percentage that year. Depicted visually, the Chicago Bears are a great example of the draft working for them (figure 3). Outside of 2010, their change in winning percentage mirrored the patter that their DPV followed. While there were some exceptions to this pattern, most teams followed a somewhat similar path when it came to the relationship between the DPV and change in winning percentage, which further supports the significant correlation and regression analyses.

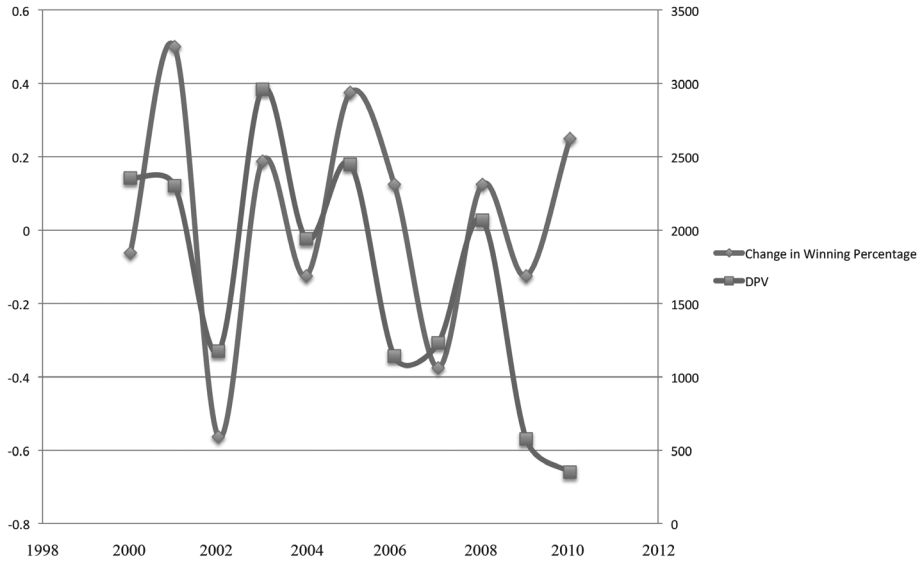

Figure 3. Comparison of Chicago Bears' Change in Winning Percentage and DPV

The purpose of this study was to examine if there was a relationship between a team's drafting value and their success based on wins and losses. This relationship was determined by comparing a team's DPV to its change in winning percentage. The authors hypothesized that the NFL Draft was invalid as a predictor of NFL success, and many of the NFL teams' draft histories supported this thesis. However, based on the analysis and results, a relationship does exist between how well a team performs in the draft and its winning percentage, but the moderate strength of the relationship does not indicate a guarantee of increased wins with a high draft pick.

Overall, utilizing the draft effectively can improve a team's performance. However, many teams wind up with similar total DPVs, thus reducing the effect the draft can have. However, 19.6% of a team's winning percentage can be determined by its draft pick value in a given year, which could mean the difference between a winning or losing season.

In accordance with the results, one can assume that the more first-round picks a team has, the greater it winning percentage will be. The correlation between the number of first-round picks and a team's change in winning percentage was of low strength. A large aspect of this relationship relies on a front office's ability to select the right players to help the team win. Throughout the 2000–2010 time period, as analyzed by this data, many teams made errors in valuing players, potentially derailing the relationship between winning percentage and DPV. For example, the Oakland Raiders selected quarterback JaMarcus Russell with the first pick in the 2007 Draft, though he only appeared in 31 career games with a less-than-stellar performance. The Raiders' winning percentage also never eclipsed 31% during the two years he started for the team. The mistake in selecting Russell early in the draft negated the team's potential to gain a player worth the value of the number one draft pick.

The NFL draft is marred by uncertainty. There are rare cases where a single draft choice can drastically affect a team's winning percentage, though typically, the draft is not an adequate predictor of future improvements in winning percentage. Within the sample, there were many instances where DPV and change in winning percentage had little to no relationship with one another.

Finally, in an attempt to provide further analyses on the success of the draft, a final variable was introduced. As the research presented here focuses most directly on the immediate impact of the draft (measured by change in winning percentage the very same year the draft occurred), the researchers wanted to introduce one factor that showed change over time. Therefore, a playoff variable was added, and represented whether a team made the playoffs or not, three years into the future. For instance, the data corresponding to the Arizona Cardinals in 2000 would include that year's DPV, number of picks, number of first-round picks, and change in winning percentage, as well as whether the team made the playoffs in the year 2003. This gives the 2000 draft class three years of productivity and impact on the team. The playoff variable was dichotomous (either made the playoffs or not).

A binary logistic regression was the appropriate analysis given the variables included in the equation. The omnibus results indicated that the regression model successfully predicted making the playoffs ($p < .05$) and the model classified 63.1% of the teams into the correct group. Lastly, only one variable (total number of picks) was a significant predictor of making the playoffs (Table 3). Based upon the equation, for every additional pick in the draft, the likelihood of making the playoffs three years later increased by approximately 14%, suggestion that perhaps it is not quality but quantity that impacts results of the draft.

Table 3

Individual Predictor Results for Logistic Regression Model

Predictor Variables	ß	S.E.	Wald	df	Sig.	Exp(ß)
Total Picks *	0.132	0.063	4.380	1.000	0.036	1.142
Draft Pick Value	0.000	0.000	1.857	1.000	0.173	1.000
# of First-Round Draft Picks	0.368	0.259	2.018	1.000	0.155	1.445
Constant	-1.520	0.517	8.634	1.000	0.003	0.219

*Significant at the $p < .05$ level

Discussion and Conclusion

In its broadest sense, the results of this study indicate that the NFL draft is effective in its ability to contribute to competitive balance. There was a positive correlation between a team's change in winning percentage and its DPV, number of first round draft picks, and total number of draft picks from year to year. A linear regression analysis also determined that approximately 20% of a team's change in winning percentage can be accounted for by its draft pick value. Finally, logistic regression pointed to the fact that an increase in the number of total picks in a draft year can significantly predict making the playoffs three years later. For the NFL, this is promising given the scrutiny they face in trying to remain competitively balanced.

Anecdotally, the success of the draft is called into question annually. Nearly every NFL team has a story of a top draft slot being used for a player who significantly underperformed. Various researchers have published work questioning the draft's effectiveness in different ways (Dubner, 2012; Berri & Simmons, 2009; Boulier et al., 2009; Massey & Thaler, 2013). Others claim that GMs generally utilize the draft well (Boulier et al., 2009). The results of this study, which look at the draft collectively over a 10-year time span, support the later claims that the draft can be a very effective tool in which weak teams are able to draft the very best players, resulting in an improved performance the following year. While no system is perfect, and certainly the NFL draft is no exception, the results of this research indicate that the draft does serve its purpose in equalizing the league.

In considering the results from a broader standpoint, there are ways in which this research can contribute to the idea of performance management under uncertainty. As previously mentioned, the NFL draft is an imperfect science, the outcomes of which are often left up to predicting a player's future performance. In the current study, draft pick value was shown to have the most direct relation

to a change in winning percentage, both within the correlation and regression analysis, so it is something for NFL owners, managers, and coaches to seriously consider. Additionally, the logistic regression indicated that the more draft picks a team has, the more likely it is to make the playoffs in the future. The idea of "tanking" has been introduced recently in the literature within the sport management field. Tanking refers to strategically putting in minimal or reduced effort during regular-season games, therefore losing more games in order to improve draft position, based on the reverse-order draft system (Borland, Chicu, & Macdonald, 2009; Soebbing, Humphreys, & Mason, 2013). Given that a higher draft pick value and more overall draft picks can contribute to a positive change in winning percentage and making the playoffs in future years, would "tanking" be an idea that might pay off for teams? For instance, if a team knows it is not going to make the playoffs in a given year, would it benefit the team to find ways to increase its draft pick value, which is most often determined by the results of the previous season? It would be interesting to explore research connecting these two topics in the future.

However, on the other side of the argument, the regression analysis indicated that only about 20% of the change in winning percentage can be predicted by draft pick value, with none of the other independent variables attributing to the outcome in a statistically significant way. This leaves approximately 80% of the change in winning percentage from year to year left to other factors. So, while attaining a high draft pick value can impact the team's results, there are other unaccounted for variables that, combined, have much more of an impact. The challenge comes in identifying what those other variables are, and would be a challenging question for future research.

This study has a number of limitations, mainly stemming from the potentially impactful factors that were not included in the analysis. For instance, there are other ways to acquire players that this study did not account for. Free agency and player trades can result in gaining or losing valuable contributing team members. Additionally, the number of draft selections awarded to a team can vary based on that team's number of compensatory selections. These compensatory picks are awarded to teams by the NFL organization for the loss of free agent players and are based on the production value associated with the loss of said player. This difference in the amount of players selected in the draft was a factor that prevented a truly equal comparison of a team's total draft picks on a year-to-year basis. The salary cap also limits what some teams are able to do when it comes to both the draft and free agency. These factors may present themselves as moderating variables, yet were not considered in the current evaluation of the NFL draft. It would be important in future iterations of this study to attempt to account for those other variables.

Another factor that must be mentioned is the existence of a delay effect within the draft. Newly drafted players often receive little to no playing time in their first year as they adjust to the team, so often may not impact the team until several years after they are drafted. Other limitations to the study involve external con-

straints, such as injuries, suspensions, and playing time. Winning percentage can fluctuate based on all of these factors, which were not accounted for in this study.

Finally, there are always limitations to purely quantitative research in that, while a trend might be identified, the numbers alone are unable to fully explain why the relationships exist. In dissecting relationships between variables and identifying why they impact one another so much, a mixed methods approach would allow the researchers to more fully understand the dynamics that are present. In thinking about adding a qualitative piece to future research on this topic, the pundits who determine NFL draft prospect rankings would be a valuable group to address, in that they are so engrained in the draft itself, and are relied on so heavily by owners, general managers, and coaches in how they make their draft decisions.

Collectively, the results of this study are promising for the NFL. The league aims to create parity among teams, and the draft is one of the major strategies in this quest. These results indicate that a successful draft (determined by a high PVC score and a large number of draft picks) can improve team performance, even as soon as the next year. Though the draft remains an imperfect science, it appears that it is doing its job to a certain extent. And the more it is analyzed, the more will be revealed in terms of how it might be improved. Future research could be conducted to analyze a particular draft class' effect over multiple years, as well as to include and identify the effect of free agency on the draft. This study does not devise a specific strategy for teams to use while drafting, rather it acknowledged that a moderate relationship exists between DPV and change in winning percentage.

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Appendix

Pick Value Chart

Round 1		Round 2		Round 3		Round 4		Round 5		Round 6		Round 7	
1	3,000	33	580	65	265	97	112	129	43	161	27	193	14.2
2	2,600	34	560	66	260	98	108	130	42	162	26.6	194	13.8
3	2,200	35	550	67	255	99	104	131	41	163	26.2	195	13.4
4	1,800	36	540	68	250	100	100	132	40	164	25.8	196	13
5	1,700	37	530	69	245	101	96	133	39.5	165	25.4	197	12.6
6	1,600	38	520	70	240	102	92	134	39	166	25	198	12.2
7	1,500	39	510	71	235	103	88	135	38.5	167	24.6	199	11.8
8	1,400	40	500	72	230	104	86	136	38	168	24.2	200	11.4
9	1,350	41	490	73	225	105	84	137	37.5	169	23.8	201	11
10	1,300	42	480	74	220	106	82	138	37	170	23.4	202	10.6
11	1,250	43	470	75	215	107	80	139	36.5	171	23	203	10.2
12	1,200	44	460	76	210	108	78	140	36	172	22.6	204	9.8
13	1,150	45	450	77	205	109	76	141	35.5	173	22.2	205	9.4
14	1,100	46	440	78	200	110	74	142	35	174	21.8	206	9
15	1,050	47	430	79	195	111	72	143	34.5	175	21.4	207	8.6
16	1,000	48	420	80	190	112	70	144	34	176	21	208	8.2
17	950	49	410	81	185	113	68	145	33.5	177	20.6	209	7.8
18	900	50	400	82	180	114	66	146	33	178	20.2	210	7.4
19	875	51	390	83	175	115	64	147	32.6	179	19.8	211	7
20	850	52	380	84	170	116	62	148	32.2	180	19.4	212	6.6
21	800	53	370	85	165	117	60	149	31.8	181	19	213	6.2
22	780	54	360	86	160	118	58	150	31.4	182	18.6	214	5.8
23	760	55	350	87	155	119	56	151	31	183	18.2	215	5.4
24	740	56	340	88	150	120	54	152	30.6	184	17.8	216	5
25	720	57	330	89	145	121	52	153	30.2	185	17.4	217	4.6
26	700	58	320	90	140	122	50	154	29.8	186	17	218	4.2
27	680	59	310	91	136	123	49	155	29.4	187	16.6	219	3.8
28	660	60	300	92	132	124	48	156	29	188	16.2	220	3.4
29	640	61	292	93	128	125	47	157	28.6	189	15.8	221	3
30	620	62	284	94	124	126	46	158	28.2	190	15.4	222	2.6
31	600	63	276	95	120	127	45	159	27.8	191	15	223	2.3
32	590	64	270	96	116	128	44	160	27.4	192	14.6	224	2