An Economic Model for College Basketball Recruiting

Jackson Fambrough
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Update: Since the paper was submitted for copyright, the model has been updated to include new variables and the most current recruiting classes. The model is now 74% accurate for the Top 150 recruits in the 2006-2013 classes. The model is currently being applied to the classes of 2014 and 2015 and is 75.8% accurate for the class of 2014 and 92.8% accurate for the class of 2015. Of the recruits the model got wrong, 37% of them transferred - including the 2012 recruits who have only played one year. If you remove the 2012 class, because they have only played one year, 40% of the recruits the model got wrong transferred from the classes of 2006-2011. The transfer stats coupled with the accuracy rate provide validation to the model being used as a real world application.

College athletics is a huge business, with men’s basketball being one of the two major revenue-producing sports (along with football) on most Division I/II campuses. In order to generate revenue, you need wins. In order to win and be a successful program, you must have quality players, and in order to have quality players, you have to strategically recruit them. When it comes to the college basketball recruiting process, universities act as profit-maximizing firms, trying to make the best choices to maximize revenue (highly correlated to wins in athletics). The recruits on the other hand behave as utility-maximizing consumers, looking for the university/program that will maximize their utility, which is most likely a function of things such as playing time, education, and national exposure to scouts, high-quality coaching, and facilities.
The recruiting process for college basketball is complicated and trepid. Schools have a set amount of scholarships they can offer every recruiting year and players usually commit to a school offering them a scholarship. It becomes a two sided matching problem as well as a situation of bargaining power between buyers/sellers with the recruits being the sellers and the schools being the buyers. The recruits are essentially ‘selling’ their talents to schools while schools are deciding which recruit’s talents to invest in and ‘buy.’ Recruits can decide which school is the best to ‘sell’ their talents to and schools can decide which recruits are best to ‘buy.’

Each college basketball program has a recruiting budget they receive from the athletic director. Budgets can range from a high of $434,095 at Kentucky to a low of $15,000 at Florida Gulf Coast found from data collected by Bloomberg. If the factors influencing a recruit to choose one school over the other could be determined, coaching staffs could potentially determine the recruits they have the best chance of receiving a commitment from, thus saving money every year. Schools waste money two ways during the recruiting process, they recruit someone they don’t have a chance with or end up using most of their recruiting budget on a prospect that commits to another school on the final day a high school player is allowed to commit to a university. The money saved on the recruiting trail would generate a larger profit for the university allowing for reallocation of funds within the university.

Finding out what makes a player commit to one school over another could also help universities land the NBA ready players of the class, players who are more than likely going to leave for the NBA Draft after only one year of college. Due to a rule enacted in the 2005-2006 season, players have to spend one year outside of high school either playing in college
or playing overseas before entering the NBA Draft, meaning players who could have gone
to the NBA straight out of high school now have to be part of the recruiting process
(Medcalf, 2012). Landing these big-time recruits with NBA potential is important to college
basketball programs for several reasons. Recruits with NBA potential of course generate
wins in most cases, but also bring with them media attention as well as being looked to as
the school where the next big NBA star played his collegiate basketball. The only way to
effectively recruit these future NBA stars and reap the benefits is to determine what factors
are significant to a recruit during the recruiting process.

**Literature Review**

Trying to determine the significant factors in college choice by high school
basketball players hasn’t been done before, but it has been done for the other major
revenue-generating sport in collegiate athletics, college football. In a paper coauthored by
Mike DuMond, Allen Lynch and Jennifer Platania, the authors describe the recruiting
process as a two-sided matching problem between players and schools and a successful
match only occurs when they both have interest in one another. In their paper they find
distance to the school as a primary factor for a player committing to a school among eight
different factors that will be explained in the theory section of this paper. I expect the
results of the paper to differ from those found by Dumond et al. due to a couple of reasons.
The first is that NCAA basketball programs can have only 13 scholarship players on their
roster at any one time, meaning there usually aren’t that many scholarships available for
recruits. On the other hand, for college football programs, 85 players can be on scholarship,
giving football programs a lot more leeway for recruiting. The second reason is some
college basketball programs experience a large turnover of players because they leave
early for the NBA. An example of this can be seen this past year, with Kentucky, where all
the starters left even though the majority of them were freshmen. While the turnover rate
potentially could be high, it is very rare for more than one starter to leave early for the
NBA. The fact schools only have 13 scholarships to give to players (less opportunities for
recruits) would dominate the opportunities created by NBA bound players due to the low
rate of players who declare early.

While Dumond et al.'s paper is the only one to go into a college recruitment process
there are a few other papers that go into the factors determining college choice. Brown's
1994 paper analyzes the NCAA rule disallowing college athletes to be paid in terms of a
salary, but instead only by a scholarship that can be worth up to $20,000 a year. These
rules are in place in order to not provide an unfair advantage to the programs that would
be able to pay the most money to a particular player. However since the player isn't being
paid their 'market value' the money they are worth gets redistributed as rent towards the
school instead. The result of his empirical test is a top college basketball player could
generate up to $1 million for the school for every year that player is there. Media rights
bought to cover the school with top recruits as well as the additional attendance and an
increase in demand for merchandise would generate the $1 million. Recruits want to play
for schools receiving the most attention because in turn they will receive attention.
Recruits want to start branding themselves as soon as they get into school and the best way
to do that is to play for a school generating copious amounts of revenue from media rights
and high-level talent.

Another article concerning this idea of marketability for a recruit comes from
Lawrence M. Kahn. Kahn like Brown, views the NCAA as a cartel in terms of not allowing
schools to directly pay athletes, instead only being able to give them a scholarship. Kahn finds athletes cause more donations to come in from alumni, more students to apply and more money coming in from the state if it is a state supported school. Kahn also concludes that while college athletes don’t make any money, there is market value for them because of the popularity of college sports, with the perennial powerhouses being the most popular. This ties in with the Brown paper by saying a recruit wants to go to a school where they could build a brand, a school with a high level of marketability so they can fully maximize their future utility once they get out of college and potentially go into the NBA.

While both the Brown and Kahn papers look importance of marketability for a recruit, there are two papers specifically dealing with factors in college choice. First, is the on-field success of a program, written by George Langelett in 2003. Langelett looks at the relationship between high-ranking recruiting classes and the success college football programs have in the future. After running a regression, Langelett sees there is indeed a link between recruiting class ranking and success. But, more importantly he finds something else. He finds the more success a team experiences, the higher the probability the incoming recruiting classes will be highly ranked. Langelett found there is a reinforcing cycle, which could help explain why the term ‘perennial powerhouse’ or ‘blue blood’ exists because all the top recruits want to go to the best programs.

One of the other main factors explored in previous literature is school distance, which was researched by Marc Frenette in 2006. Frenette researches the role distance of a school from a perspective student deciding to attend that particular school. Frenette states students may avoid a university that is farther away because it would mean more costs for the student. This study examines Canadian students and the distance they commute to
their university. Frenette finds students who are outside of commuting distance as well as students who come from low-income families are far less likely to attend a university than those who can easily commute and come from higher income families. This effect should be of even greater importance when analyzing the decisions of athletes, as not only will they have to commute to and from the schools to go back to their hometown, but also their families and friends will have to travel to watch them compete.

**Theory**

As stated before, the choice problem of the recruits involves maximizing utility by choosing which school to attend out of the subset of schools offering them a scholarship. We make the assumption that a recruit will not choose to attend a school that does not offer them a scholarship, as the cost of paying tuition and living expenses on their own would be too high to be utility maximizing. Similar to the Dumond et al. paper, high school basketball players choose the university that maximizes their expected discounted lifetime utility. Expected utility is divided into two categories, short-term utility (the one to four years they spend in college) and long-term utility (the years after they leave the university).

The benefits of choosing a particular school for any recruit would be the improvement that the school’s coaching staff, facilities, etc. would make to their productivity. Given we assume the player would be on scholarship, the two main costs accrued would be the opportunity cost of attending school as well as any costs dealing with travel the recruit or their family would have to pay. Since we assume students engaged in the recruiting process have already made the decision to attend college, we treat this as an unconstrained optimization problem. That is, the opportunity cost should be constant.
across any of the potential school choices and thus does not enter into the decision on which school they choose. We assume the recruit will in the end choose the school offering the highest expected utility. More formally, following the model formulated by Dumond et al. the economic decision making process for recruits is as follows with recruit (j) at position (k) receiving utility from the following factors associated with university (z):

Max E \sum_{t=1}^{4} \beta^{t-1} U(WIN_{zt}^{t}, PLAY_{zt,k}^{t}, AMEN_{zt}^{t}, MEDIA_{zt}^{t}, DIST_{zj})

+ E \sum_{t=5}^{\infty} \beta^{t-1} U(GRADPROB_{zt}, ACADRANK_{zt}, NBAPROB_{zt})

The first term represents the short-term (college years) utility of a recruit where WIN_{zt}^{t} is the winning percentage of school z, PLAY_{zt,k}^{t} is the playing time available at position k for school z, AMEN_{zt}^{t} is the level of amenities at school z, MEDIA_{zt}^{t} is the media coverage of school z, and DIST_{zj} is the distance between school z and recruit j. The second term represents the long-term (post-collegiate) utility of the recruit which is assumed to be a function of, GRADPROB_{zt} the graduation probability at school z, ACADRANK_{zt} the academic ranking of school z, and NBAPROB_{zt} the probability of playing in the NBA by going to school z.

Based on theory and the previous literature, we can infer the effect each variable is expected to have on a recruit’s decision. For example, in the short-term a recruit is more likely going to go to a school with a higher winning percentage over the past five years because they want to be with a more successful program over a less successful one as seen in Langelett’s paper. In addition, any recruit coming into college wants to play right away and if there isn’t any playing time available right when they get to a school, they might not want to go that school, meaning the more playing time available at a school, the more likely
A recruit will want to commit to that school. A school can also be more attractive to recruits by what sort of amenities they have, like weight rooms and state of the art stadium facilities because recruits want to play in top of the line facilities. One of the biggest dreams for any young basketball fan growing up is being able to play on television and becoming a star. With this, the more media coverage a team has, the more likely it is that their players will be shown on television, thus increasing the likelihood that recruits will choose that school. The last short-term variable deals with distance between the recruit and the school. As we can see from the literature review section as well as results from the Dumond et al. paper and the Frenette paper, recruits want to play close to home because the closer they play to home, the less money their family and friends are going to have to pay in order to travel to the recruit’s games. This means schools are more likely to pick up commitments from recruits closer to the school rather than recruits from different parts of the country.

In analyzing the longer-term factors, we expect that both graduation probability as well as the academic ranking matter most to a recruit’s parents. Parents typically want their child to get an education, including an eventual degree from a university. The higher the graduation probability of a school as well as a higher academic ranking then, would be more attractive to a recruit’s parents, meaning a recruit it more likely to commit to those schools. The ultimate dream for any kid growing up and playing basketball is playing in the NBA, meaning a recruit is more likely to commit to a school having a reputation of sending players to the NBA.

In the end, the school that maximizes a recruit’s expected utility will put that recruit on their highest possible indifference curve. That is, given the situation graphically depicted below, the recruit will strongly prefer School A to Schools B and C.
Data & Methodology

Data for this model is collected from the recruiting classes of 2006 to 2011, specifically the Top 150 players in each class determined by Rivals.com. In addition to Rivals.com, Scout.com is a recruiting database website where information about nearly any recruit can be found. The information used in this paper from Rivals and Scout includes rankings, scholarship offers, and official visits. For school information, Forbes.com school rankings were used, which use statistics like graduation rate as well as academic prestige to determine the academic rank of colleges. For the purposes of this paper, academic rankings are split up into four tiers: Tier 1 (schools ranked 1-100), Tier 2 (101-200), Tier 3 (201-300), and Tier 4 (301-400). Other school characteristics concerning on-court success are found in the records from NCAA.com, including the records of each team, post-season success, and head coach information. Information concerning NBA Draft selections for a school comes from NBA.com. The distance between the recruit and the school was calculated using Google Maps to determine the shortest route from their hometown to the school in terms of mileage.

Empirical Results
In order to model a recruit’s college choice, a probit analysis is used because it is more accurate than a linear probability model using OLS. The probit analysis allows us to estimate the probability associated with obtaining a binomial dependent variable through maximum likelihood. The estimated equation used is shown below, which is analogous to the expected utility equation in the theory section of the paper and based on the equation used by Dumond, Lynch, and Platania:

\[ P_{jz} = \Phi(X_j \beta + Y_z \delta + Z_{jz} \theta) \]

where \( \Phi \) is the normal cumulative distributive function and \( P_{jz} \) is the probability recruit \( j \) chooses school \( z \). \( X_j \) is a vector containing characteristics of the recruit including recruit rankings and what position they play. The vector \( Y_z \) contains characteristics of the school, including a school’s success athletically and academically as well as age/capacity of stadiums. \( Z_{jz} \) is the vector dealing with the relationship between the recruit and the school, including the geographical location of the school, if the recruit took an official visit to the school, and the relationship between the recruit and a school’s academics.

Using the coefficients from the model, we can predict what school an individual recruit will select. Specifically, we analyze every school that has offered the recruit in question a scholarship and calculate the probability the recruit would commit to each one of those schools. Whichever school has the highest probability is assumed to be the school the recruit will commit to when he makes his decision. The predictive accuracy of the model can be determined then by seeing how the predictions for each recruit compares to where they actually decided to play basketball. If random selection was used instead to predict where recruits would go to school, around 25% would be accurately predicted because in the six recruiting classes used for this model, a recruit received, on average,
approximately four scholarships offers. In Table 1, the coefficients and the significance of each variable is included.

The model includes all variables for recruit characteristics, school characteristics, and the recruit-school relationship characteristics. The revised model was created after there was multicollinearity found between all player ranking methods (position ranking, star level, ranking across all positions) in Model 1, meaning the ranking methods were more closely correlated with each other instead of if the recruit chose the school or not. ‘Ranking Across All Positions’ was chosen as the player ranking method used in Model 2 because it is the most accurate among the player ranking methods. Analyzing the recruit characteristics by looking at Model 2, the variable 'Ranking Across Positions' provides interesting insight into how recruiting works. If a school offers a scholarship to the recruit ranked 10\textsuperscript{th} and a scholarship to the recruit ranked 20\textsuperscript{th}, the recruit ranked 20\textsuperscript{th} would be

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Likelihood</td>
<td>-1726.6716</td>
<td>-1727.6996</td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.752*</td>
<td>-1.6142*</td>
</tr>
<tr>
<td><strong>Recruit Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position Ranking</td>
<td>0.0076</td>
<td>-</td>
</tr>
<tr>
<td>Star Level</td>
<td>0.0273</td>
<td>-</td>
</tr>
<tr>
<td>Ranking Across Positions</td>
<td>0.0034**</td>
<td>0.0046*</td>
</tr>
<tr>
<td>PG (yes/no)</td>
<td>-0.0936</td>
<td>-0.0624</td>
</tr>
<tr>
<td>SG (yes/no)</td>
<td>-0.0473</td>
<td>0.0063</td>
</tr>
<tr>
<td>SF (yes/no)</td>
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<td>-0.0682</td>
</tr>
<tr>
<td>PF (yes/no)</td>
<td>-0.1106</td>
<td>-0.0498</td>
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<tr>
<td><strong>School Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member of Power 6 Conference (yes/no)</td>
<td>0.1497**</td>
<td>0.1478**</td>
</tr>
<tr>
<td>Winning Percentage (Past 5 Years)</td>
<td>-0.0034</td>
<td>-0.0035</td>
</tr>
<tr>
<td>RPI Ranking (Prior Year)</td>
<td>0.0013*</td>
<td>0.0013*</td>
</tr>
</tbody>
</table>
Final Four Appearances (Past 5 Years) | -0.0664 | -0.0651
--- | --- | ---
Sweet 16 Appearances (Past 5 Years) | 0.0109 | 0.0092
Conference Titles (Prior Year) | 0.0832 | 0.085
Conference Titles (Past 5 Years) | -0.0039 | -0.0047
National Champion (Prior Year) (yes/no) | 0.3529** | 0.3573**
Draft Picks (Prior Year) | -0.0187 | -0.0213
Draft Picks (Past 5 Years) | 0.0564* | 0.0572*
New Head Coach (yes/no) | -0.3259* | -0.3256*
Tier 1 Academic School | -0.0104 | -0.0109
Tier 2 Academic School | -0.1165*** | -0.1133***
Tier 3 Academic School | 0.1232** | 0.1319**
Age of Stadium (Years) | 0.0014 | 0.0015
Stadium Capacity | 0.000025* | 0.000025*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship Characteristics</td>
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<td></td>
</tr>
<tr>
<td>Distance (miles)</td>
<td>-0.00004</td>
<td>0.000054**</td>
</tr>
<tr>
<td>Same Region (yes/no)</td>
<td>0.0539</td>
<td>-</td>
</tr>
<tr>
<td>Same State (yes/no)</td>
<td>0.5449*</td>
<td>0.5057*</td>
</tr>
<tr>
<td>Official Visit (yes/no)</td>
<td>0.8655*</td>
<td>0.8654*</td>
</tr>
<tr>
<td>Highly Ranked and Tier 1 School (yes/no)</td>
<td>-0.2054***</td>
<td>-0.1887***</td>
</tr>
</tbody>
</table>

*, **, and *** indicate the variable is statistically significant from zero at the 5%, 10%, and 15% level, respectively.

approximately 5% more likely to commit to the school. This is where being able to find talent in the lower portion of the rankings can really benefit a school because they will have
a better shot with recruits ranked somewhere in the middle of the top 150 recruits as opposed to the top 20 recruits everyone else is going after.

The other interesting result that comes from recruit characteristics is how the position the recruit plays determines if he is more or less likely to commit to a school. The baseline for the model was the center position. As can be seen in the table, each position except for the shooting guard (SG) has a negative coefficient, meaning if a recruit is anything other than a center or a shooting guard they are less likely to commit to a school. This could be explained by the amount of recruits at each position because it is common knowledge in college basketball recruiting a true center is the toughest thing to recruit followed by a true shooting guard because there are so few of them every year. It could also be explained by the amount of playing time available at a school since most schools don’t have true centers, meaning a recruit at the center position would be able to come into a program and get playing time right away. The same goes for a shooting guard, few schools have a true shooting guard, instead choosing to recruit a point guard or a small forward already on their roster because of the scarcity of shooting guards coming out of high school. If a recruit is a small forward (SF), power forward (PF), or a point guard (PG) there is a 6.82%, 4.98%, and 6.24% less of a chance a recruit playing those positions will commit to a school compared to a center. The reason why small forward, power forward, and point guard have negative coefficients is because a large portion of recruits play one of those three positions and schools usually have those spaces already filled on their roster because of their importance to the overall team. Both shooting guard (SG) and point guard (PG) have small negative coefficients, making both positions close to having the same demand as the center position. It is easy to understand why a shooting guard would have a little bit
bigger chance to commit to a school as a center (0.63% more of a chance) because a shooting guard is supposed to be a player who can both handle the ball and have the ability to score, like a Russell Westbrook or a Tim Hardaway Jr.

As expected, school characteristics turn out to be important in the college basketball recruiting process as seen in the model. If a school is in a BCS Conference (a term borrowed from college football), it increases the chances a recruit commits by 14.78%. A few things help explain why a BCS conference has close to a 15% higher chance to bring in a recruit than mid-majors. The first is media rights and more eyes watching the recruit overall. As seen in Brown and Kahn papers, recruits can help generate up to $1 million of extra revenue for a school and they will only be able to do that at a major college program because of the program’s market share/power. Mid-major programs like a Creighton or Gonzaga receive less national attention during the regular season and only garner attention when they have success in the NCAA Tournament by pulling off an upset of one of the major programs. Playing in a BCS Conference means the expected future benefits of a recruit will be much greater because of all the attention they will receive if they go to a BCS program instead of a mid-major program. This result is extremely important for schools to pay attention to right now because of all the conference realignment occurring in nearly every conference.

In the previous literature, success of the program was one of the main variables found to be significant to potential recruits, and this model supports that same result. For every ten spots higher a team is in RPI (farther away from number one), the recruit is 1.3% less likely to commit to that school which reflects the results the Langelett paper where a more successful team will have better fortune with recruits. The variable National
Champion the year prior increases the probability of a recruit committing to that school by close to 36%, thus showing that high school recruits want to play on National Championship teams because being a recruit wants to play against the best competition possible in order to showcase their talents and improve their NBA Draft stock. Success in terms of sending players to the NBA also lifts chances with a recruit in terms of draft picks in the past five years, 5.72% per draft pick. An unsuccessful program could result in the current head coach being fired and a new head coach to be hired. A new head coach usually brings uncertainty to the program because new types of offense and defense are introduced and the coach has to learn how to get his chemistry to match with the players. This new uncertainty coming from hiring a new head coach results in recruits previously considering that school before the hire of a new coach will now be about 33% less likely to commit.

While success on the court matters a lot to a recruit, school success off the court and in the classroom is surprisingly insignificant. Tier 4 Academic Schools were used as the baseline for the academic rankings and all three other tiers were significantly different from Tier 4, being Tier 1 (ranked 1-100), Tier 2 (ranked 101-200), and Tier 3 (ranked 201-300). If a school is a Tier 3 School, a recruit is 13.09% more likely to commit to the Tier 3 School than a Tier 4 School. This makes sense because as discussed in the theory and in the Dumond et al. paper, it is expected recruits, and more so their parents, will want to go to high quality academic schools. However, there are two surprising results about the academic rankings, a recruit is 11.33% less likely to commit to a Tier 2 School than a Tier 4 School. While it may be a strange result, a possible explanation for it could be many Tier 2 Schools (around 20% of the Top 25 Basketball Teams every year) aren’t known as
basketball schools as compared to Tier 4 Schools (around 30% of the Top 25 Basketball Teams every year). The other surprising result deals with the Tier 1 Schools, where the results show Tier 1 Schools aren’t significantly different from Tier 4 Schools, going against the theory and the findings from the Dumond et al. paper. What could help explain this result is the fact a recruit’s parents just want their son to receive a degree from a school and if they go to a Tier 1 School, they could be academically challenged to a point where they won’t receive a degree.

The model also includes variables related to a school’s stadium, including a stadium’s age and capacity. The age of the stadium is insignificant, which is somewhat surprising, but may be explained through recruits wanting to play in both the most technologically advanced stadiums as well as in the “cathedrals” of college basketball like Allen Fieldhouse and Cameron Indoor Stadium. In terms of a stadium’s capacity, which is significant, for every additional 1,000 seats an arena has, chances with a recruit go up by 2.5%. This is expected because more people in an arena watching the game live means more eyes could be on the recruit and the atmosphere during a game could be marginally better than a smaller gym.

Finally we analyze the recruit-school relationship characteristics defined by how far away a school is away from a recruit, where that school is geographically in terms of relation to a recruit, and if the recruit took an official visit to the school. The distance a school is away from a recruit isn’t significant in Model 1, which is surprising. The distance variable not being significant goes against what was found in Dumond et al.’s paper as well as Frenette’s, but when the variable ‘Same Region’ is removed as seen in Model 2 due to multicollinearity between the two variables, distance becomes significant, going in line
with what is found in the Dumond et al. paper. As expected, the coefficient for the distance a school is from a recruit is negative. While the coefficient seems small, for every thousand miles a school is away from a recruit, the chances of the recruit committing to that school go down by 5.4%.

Another significant variable out of the relationship characteristics is the same state variable, which goes in line with the results found in the Dumond et al. paper. If a school is in the same state as a recruit, the chances the school has with the recruit goes up by 50.57%, almost double of what was found in the Dumond et al. paper concerning college football recruiting. The other main significant variable is if the recruit went on an official visit to a school, boosting the probability a recruit commits to the school they officially visit by close to 87%, also in line with the Dumond et al. findings. The reason the probability boost for an official visit is so high is because a recruit is only allowed five official visits in their whole recruiting process according to the NCAA Eligibility Center Guide for the College Bound Student-Athlete, meaning they are only going to officially visit schools they really see themselves playing at in the future.

In addition, to address the concern of particular recruits possibly targeting higher quality schools while other recruits aren’t, an interaction variable was tested. The interaction variable dealt with highly ranked players (5-star prospects) and top tier institutions. For this, a dummy variable was used, seeing if the recruit was a highly ranked player and was looking at a Tier 1 School. It was expected this interaction variables would have a negative coefficient because 5-star prospects don’t want to go to schools where they will be academically challenged, they just want to go to a school that best prepares them for the NBA. This variable dealing with highly ranked recruits looking at Tier 1 School is
significant and has a negative coefficient as expected. If a recruit is looking at a Tier 1 School, they are 18.87% less likely to go there than a lower ranked school, showing why schools like Kentucky have had great recent success with recruits by selling them with the idea they are just their to help them get into the NBA and aren’t going to pressure them with academics like other schools.

Using the model, specifically Model 2, we can see how well it predicts the choices of recruits over the past 6 years. As seen in Table 2 on the following page, the model correctly predicts 62.95% of recruits’ school choice from the 2006 to 2011 recruiting classes. Random selection would correctly predict around 25% of the recruits, and thus the model provides a substantial improvement over simple random selection. Looking at the predictive accuracy broken down by recruiting class, it is clear that the predictive power of the model is fairly consistent from class to class. This is important as it reinforces the reliability of the model and its results.

Table 2: Predictive Accuracy of the Probit Model by Year (In Percentages)

<table>
<thead>
<tr>
<th>Year</th>
<th>Predictive Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006 Recruits</td>
<td>67.83</td>
</tr>
<tr>
<td>2007 Recruits</td>
<td>62.59</td>
</tr>
<tr>
<td>2008 Recruits</td>
<td>62.59</td>
</tr>
<tr>
<td>2009 Recruits</td>
<td>63.19</td>
</tr>
<tr>
<td>2010 Recruits</td>
<td>63.45</td>
</tr>
<tr>
<td>2011 Recruits</td>
<td>58.04</td>
</tr>
<tr>
<td>Overall Accuracy</td>
<td>62.95</td>
</tr>
</tbody>
</table>

Conclusion

In this paper we looked into decision-making factors of the recruit side of the college basketball recruiting process. We learn from previous literature and the theory that recruits want to go to the school maximizing their short/long-term utility due to factors like a program’s success, academic ranking, exposure level, and amenities. The empirical
results provided further insight into what is important to the recruit as well as the recruit’s family. From the results, we can infer a recruit would want to be at a school with demonstrated on-court success as well as a school having a high level of exposure whether it be from the school being in a BCS conference or a school having a massive stadium it fills on a consistent basis. For the recruit’s family on the other hand, they would want their son to go to a school where they can receive a diploma, not necessarily a top tier school where there might be a chance of their son not graduating. If the recruit is a top prospect, the family and the recruit might not care as much about receiving a diploma and care more so for the school’s ability to prepare him for the NBA. Parents also look for a school that is close in terms of geographical location, preferably in the same state to lessen travel expenses. In the future, factors like quality of coach, style of play, and a program’s historical legacy could be examined in order to improve the accuracy of the model.

Two huge implications arise from the results found in this paper, being able to forecast both sides of the recruiting process. On the recruit’s side, a family could use the model created in this paper to figure out which school effectively maximizes the utility of the recruit based on the significant factors of the recruiting process. While the recruit could use this to calculate which school out of the schools offering him a scholarship would bring about the greatest future expected discounted lifetime utility, the recruit could also look at other schools that have yet to offer him a scholarship and see if there is a better fit for the recruit at one of those schools. From the model, a recruit could compare schools to one another and determine which one would best fit him without any bias coming from the recruit, his family, or his high school/AAU coaches.
On the other side of the recruiting process is the school, which could also utilize this model in order to optimize their recruiting process even though it only deals with the recruiting side of the process. A school could take this model and find which recruits it has the best chance with so that it could effectively put to use its efforts instead of wasting time/effort in recruiting someone who they have no shot with at all. On the other hand, a school could find a recruit they thought they didn’t have a shot, but they end up getting a commitment from after seeing in the model they have a good chance to land that recruit. From this model, a school could hypothetically lay out its recruiting plan by choosing their targets and setting the priority of each one. This in turn would minimize recruiting costs and lead to an increase the talent coming into the basketball program, which will lead to more wins, ultimately leading to more revenue for one of the two largest revenue streams for college athletic departments.
References


