

DETERMINANTS OF COLLEGE BASKETBALL GRADUATION RATES

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ABSTRACT

This paper presents empirical results investigating the determinants of six-year graduation rate for college basketball teams. The research sample consists of 434 (217 men's and 217 women's) college basketball programs during the years 2004-2010. Demographic and performance data are from the 2008 college basketball season. Significant positive determinants of college basketball six-year graduation rates are profitability of the overall athletic program, size of the institution defined by number of undergraduate students, financial support the institution offers to college athletes, recruiting budget of the athletic program, percent of the recruiting budget allocated to female athletes, number of team wins, and categorical trait of being a women's team over a men's. The empirical results indicate classification as a public institution and percent of the financial support allocated to female athletes at an institution are negative and have a statistically significant impact on six-year graduation rates of basketball programs. Profitability of the basketball program and average pay for head coaches are not statistically significant determinants.

INTRODUCTION

Universities receive their non-profit status thanks to their role of educating students but the business aspect of college sports continues to grow and expand. The University of Texas leads collegiate athletic programs with over \$120 million a year in revenue generation, which include approximately \$15 million generated by the men's basketball program and \$3 million by the women's basketball program. Critics of college sports cite the revenue generated by athletics as evidence of their commercial nature. Supporters counter by stating the overall goal of athletics is not to turn a profit but to provide financial support to student athletes and increase the university's national profile (McEvoy, 2005; Smith, 2008). Proponents of major college athletics highlight the positive externalities associated with the public relations and institutional branding produced by successful athletic programs (Smith, 2008). The role of athletics on a college campus can be debated but graduation rates measuring the proportion of an entering class that have graduated within a specific number of years are one of the most common outcome

measures. Scott, Bailey, and Keinzl (2006) argue for using six-year graduation rates as a performance measure because it is one of the most important measures, is a measure available for a large number of institutions, and allows comparable findings to other results in the literature.

Athletics is a driving force at many institutions of higher education. The purpose of this research is to investigate the determinants of six-year graduation rates for college basketball programs. The determinants model considers multiple variables including athletic program profits, basketball program profits, winning, institution size, recruiting budget, men's versus women's program, public versus private institutions, and financial support. The organization of the manuscript is as follows: The first section offers a brief review of the literature. The second section describes the data and model. The next section offers empirical results for the determinants of six-year graduation rates for college basketball derived from 434 college basketball programs. The final section offers a summary and conclusions.

SURVEY OF THE LITERATURE

One of the most pressing issues facing American universities is the number of students who fail to graduate. Low graduation rates cost universities scarce resources; weaken the ability to meet educational objectives; and are perceived to reflect the university's ability to meet the educational, social, and emotional needs of students (Mangold, Bean & Adams, 2003). There is a dearth of research on the graduation rates of college athletes and athletic programs but there is an established independent research track for both graduation rates and various aspects of college athletics. Retention rate has dominated studies looking at academic persistence. Academic and social attachment currently forms the foundation of most research on persistence and graduation success (Pasarella & Terenzini, 1991; Tinto, 1993). Institutional or social policy designed to increase retention generally focus on strengthening student attachment, for example through improving student services or increasing intramural and varsity athletics. Metzger and Bean (1987) find that age and goals have a greater role in persistence and related outcomes for non-traditional than traditional students.

Mangold, Bean, and Adams (2003) find a negative relationship between athletic success and graduation rates at NCAA Division I institutions. Successful intercollegiate sports may not provide a mechanism for academic integration and may, under certain conditions, actually weaken it. In order to resolve this possible conflict between the results and the existing literature, the authors begin by pointing out that social involvement, if carried too far, can result in suboptimal outcomes. Many of the factors that inhibit social integration may also weaken academic integration and attenuate persistence (such as commuting, maintaining friendships with peers not attending college, off-campus employment). In addition, activities that are not part of the student's academic environment, such as commuting or off-campus employment, may also weaken academic and/or social integration and thus compete with learning objectives as well as a student's overall commitment to graduation. Their results suggest that social involvement in

intercollegiate sports, a process that broadly and indirectly is expected to facilitate graduation, may work in combination with other institutional characteristics to inhibit it.

The student demographic characteristics are often different for public and private schools. Public institutions tend to have relatively larger numbers of commuter and older students. Scott, Bailey, and Kienzl (2006) employ a selectivity measure via high school GPA or SAT admission scores as a proxy for quality. Private institutions tend to have higher admission traits than public institutions. Scott, Bailey, and Kienzl (2006) show that public colleges have lower six-year graduation rates than private colleges but if resources and student populations are controlled, public colleges are able to do more with less and graduate a slightly larger percentage of students. Astin and Oseguera (2002) employ regression analysis for their empirical work, which reveals institution type (private, public, college, university), SAT score, GPA, race, and gender all have an impact on retention and graduation rates. Importantly, they find that the gap in six-year graduation rates between public and private colleges diminishes significantly, from 31% to about 7% when all these factors are controlled.

Rishe (2003) uses least squares estimates from Division I schools to examine how athletic success influences graduation rates. He finds that neither the graduation rate for student-athletes nor graduation rate for all other undergraduates is sensitive to the level of a school's athletic success. However, the graduation gap between student-athletes and all other undergraduates is sensitive to various measures of a school's athletic success. Women have higher graduation rates than men in general, and this gender graduation gap is exacerbated when focusing on student-athletes at schools with the most prominent football programs.

The success of collegiate athletic programs might have an indirect impact on an academic institution or the local community. Tucker (2005) finds a statistically significant impact for successful football teams on the quality of incoming freshman class, which provides evidence of a strong athletic advertising effect for football. Multiple studies find a positive correlation between athletic success and alumni giving rates (Rhoads & Gerking, 2000; Turner, Meserve & Bowen, 2001; Monks, 2003; Holmes, Meditz & Sommers, 2008). Rees and Schnepel (2009) find host communities register sharp increases for assaults, vandalism, and arrest for disorderly conduct on college football game days. Upsets are associated with the largest increase in the number of expected offenses. Baade, Baumann, and Matheson (2008) examine the economic impact of college football on the local economy. The research focuses on 63 metropolitan areas that played host to major college football with a research sample from 1970 through 2004. Number of home games played, winning percentage of local team, and winning a national championship are shown to have an insignificant impact on employment and personal income in the cities where the teams play. Lentz and Laband (2009) examine the economic impact of college athletics on employment in the restaurant and accommodations industries. They find a positive and statistically significant relationship between college athletics revenue and MSA employment in the food services and accommodations industries. Siegfried, Sanderson, and

McHenry (2007) argue that the economic impact analyses developed by most college and universities tend to inflate the real economic impact.

Terry, Pjesky, and Patterson (2011) investigate the determinants of men's college basketball profit. Size of the student athlete recruiting budget, size of the institution measured by number of undergraduate students, availability of financial aid to student athletes, head coach compensation, and winning are revealed to be positive and statistically significant determinants of men's college basketball profitability. Model results imply profitability of the overall athletic program at an institution, percent of student athletic financial support allocated to women, public institutions, number of female athletes at an institution, and compensation for assistance coaches are not significant determinants of men's college basketball profits.

Compensation of college coaches can have a significant impact on the performance of an athletic program. Terry, Pjesky, and Rider (2009) conclude the significant determinants of head coaches pay are profitability of the athletic program, recruitment budget, percentage of the recruitment budget allocated to women's sports, compensation of assistant coaches, number of female athletes at the institution, and number of sports supported by the athletic program. The Equal Employment Opportunity Commission (EEOC) has ruled all collegiate coaching jobs are substantially equal. All coaches at all levels perform certain functions including teaching/training, counseling/advising student athletes, general program management, budget management, fundraising, public relations, and recruiting at the college level. Labor market theories suggest similar individuals who do the same job with the same support should earn similar salaries. Brown and Jepsen (2009) find this to be true among major league baseball players. Players with higher offensive statistics (productivity) did receive higher salaries. Idson and Kahane (2000) find that having productive teammates enhances productivity and compensation. Kahn (2006) found that African-American coaches were not victims of discrimination in wage, hiring, or firing in the NBA. Humphreys (2000) reports that male head coaches of women's basketball teams earn less than do female head coaches of women's basketball teams.

Title IX prohibits any type of gender discrimination in any educational programs or activities within an institution receiving federal financial assistance. The act applies to both public and private schools, from kindergarten through graduate school, and covers admission, recruitment, educational programs and activities, course offerings and access, counseling, financial aid, employment assistance, facilities and housing, health and insurance benefits and services, scholarships, and athletics. Title IX has been the most important measure ever undertaken to promote gender equality in sports (Leeds & Von Allen, 2002). From 1971-2002 the number of women in college sports increased fivefold. In fact, now there are more women's teams than men's teams: 9,479 to 9,149. The potential conflict with the expansion of women's athletics is the redistribution of football profits to female non-revenue generating sports at the expense of male non-revenue generating sports like wrestling and rugby (Terry & Ramirez, 2005).

The literature implies size of a college via number of students could have a positive

impact on athletic program profitability. The labor economics literature has revealed the tendency for large firms to be more profitable and pay employees more than small firms (Lucas, 1978; Oi, 1983; Brown & Medoff, 1989; Fox, 2009). Absolute profits and profit rates both have a tendency toward positive correlation with size. Large state universities like the University of Texas, University of Michigan, and University of Florida might have an innate advantage with respect to football programs based on their dominant size. The extra profits might indirectly influence six-year graduation rates by offering large institutions a larger resources base for student support that helps facilitate graduation.

DATA AND MODEL

The NCAA regularly surveys member institutions to assess compliance with Title IX and other regulations. This study uses data from the 2008 Office of Postsecondary Education Equity in Athletics Disclosure website and 2004-2010 six-year graduation rates from the NCAA Graduation Success Rate website. The research cohort is derived from 434 Division I (217 men's and 217 women's) Division I collegiate basketball programs. The explicit empirical model employed to investigate the graduation rate for college basketball is specified as follows:

$$(1) \text{ GR}_i = B_0 + B_1\text{APROFIT}_i + B_2\text{PPROFIT}_i + B_3\text{STUDENTS}_i + B_4\text{PUBLIC}_i + B_5\text{FINSUPP}_i + B_6\text{WFINSUPP}_i + B_7\text{RECRUIT}_i + B_8\text{FRECRUIT}_i + B_9\text{COACH}_i + B_{10}\text{WINS}_i + B_{11}\text{FEMALE}_i + u_i$$

Table 1 presents summary statistics for model variables. The dependent variable GR measures six-year graduation rates for basketball programs for the years 2004-2010. A six-year graduation rate was selected in order to be consistent with the literature and employ a measure that is more flexible to life challenges than the timely four-year graduation rate. Seventy-nine college basketball programs reported a six-year graduation rate higher than 95%. Fifty-eight of the seventy-nine programs reporting 95% or higher graduation rate represent women's college basketball. Nine institutions in the research cohort have both men's and women's college basketball six-year graduation rates higher than 95%. The nine programs are Yale University, Brown University, Harvard University, Dartmouth College, Princeton University, Bucknell University, University of Dayton, University of Rhode Island, and Villanova University.

The model includes eleven independent variables. Two of the variables focus on profitability. The expectation is for the profit variables to have a positive impact on six-year graduation rates based on the expectation that profits have a positive impact on resources, which include the luxury of smaller class sizes and the availability of tutors. The variable APROFIT controls for the profit of the overall athletic program at an institution. Notre Dame (\$26.1 million), University of Michigan (\$20.8 million), University of Texas (\$15.7 million), and University of Florida (\$15.6 million) are the four athletic programs in the sample reporting the highest profitability across the entire athletic program. The sample cohort includes 204

institutions reporting overall athletic profits of less than \$100, although no institution in the sample reports a negative overall profit for the athletic program. The variable PPROFIT measures basketball program profit (reported basketball program revenue minus basketball program cost) at the institution. Twenty-two programs in the research cohort report a basketball program profit of \$5 million or higher. The three programs with the highest profitability are the men's programs at University of North Carolina (\$11.6 million), University of Arizona (\$13.2 million), and University of Louisville (\$17.1 million). On the other hand, not all college football programs are profitable. In fact, four institutions (University of Akron, University of Tulsa, Villanova, and Ball State) report losses in excess of \$3 million. In contrast, 152 of the women's basketball programs earned a negative profit.

Table 1
Summary Statistics

Variable	Mean	Maximum	Minimum	Std. Deviation
GR	0.7655	1.00	.10	0.1971
APROFIT	3,590,884	13,225,139	128,952	2,848,943
PPROFIT	204,707	17,134,624	-3,378,575	2,175,283
STUDENTS	12,937	36,612	1,678	8,223
PUBLIC	0.74	1	0	0.4381
FINSUPP	4,753,853	15,478,248	0	2,841,703
WFINSUPP	0.4152	0.6100	0	0.0976
RECRUIT	494,329	2,005,677	28,500	366,236
FRECRUIT	0.3281	0.6461	0.0941	0.0723
COACH	192,864	903,890	16,674	170,443
WINS	15.38	30	2	6.33
FEMALE	0.50	1	0	0.50

The independent variables STUDENTS and PUBLIC are institutional control variables. The STUDENTS variable captures the size of the institution. STUDENTS is a measure of the number of undergraduate students enrolled at the institution. The largest institution in the sample is Penn State with 36,612 undergraduate students, while the smallest institution in the research cohort is Davidson College with 1,678 students. The impact of institution size on six-year graduation rates could be positive or negative. The positive attribute is that large institutions can take advantage of economies of scale with respect to providing student support services. The negative attribute for large institutions is the prospect of larger class sizes and less personal attention per student. The variable PUBLIC is a categorical variable controlling for public versus private institutions. Public institutions represent seventy-four percent of the institutions in the research sample. The expectation is for public institutions to have a lower six-year graduation rate than their private counterparts based on private institutions ability to recruit student athletes with stronger academic backgrounds.

The next four independent variables in the model are resource control variables. FINSUPP is the amount of financial aid support available to students at an institution. Stanford (\$15,478,248) and University of Notre Dame (\$13,793,174) are the two institutions that offer the greatest amount of financial support to student athletes. In contrast, several of the Ivy League programs, including Yale, Dartmouth, and Harvard, do not explicitly offer financial support to students based on their classification as a student athlete. Despite the Ivy League programs not explicitly providing support to student athletes, the expectation is for financial support to have a positive impact on graduation rates. The variable WFINSUPP measures the percent of financial support in the athletic department allocated to female athletes. Drake University leads the research cohort in percentage of support allocated to women at 61%. A higher allocation of financial support to female athletes should have a negative impact on six-year graduation rates for men's programs but a positive impact on women's programs. RECRUIT is the budget allocated to the athletic department to recruit student athletes. The largest recruiting budget in the sample is \$2,005,667 at the University of Tennessee, while the smallest reported recruitment budget is \$28,500 at Texas Southern University. Recruiting budget should have a positive impact on the graduation rate of basketball programs assuming higher recruiting budgets offer programs the ability to attract individuals with both athletic and academic acumen. The variable FRECRUIT measures the percent of the recruiting budget in the athletic department allocated to female athletes. South Carolina State University leads the research cohort in percentage of recruiting budget allocated to women at 65%. A greater percentage of recruitment funds allocated to female athletes should have a negative impact on the six-year men's basketball graduation rate but enhance the women's basketball graduation rate.

The variable COACH is defined as the average pay of head coaches in male or female sports at the institution. The COACH variable serves as a proxy for compensation of head coaches for the men's and women's basketball programs, which should be highly correlated with average head coach pay at an institution. The University of Texas and University of Kansas lead the way with average head coach salaries of \$903,890 and \$748,953, respectively. Saint Peters College offers the lowest average head coach salary at \$16,674.

The variable WINS measures the number of basketball wins for the 2008 season. Three men's basketball programs won 30 games in 2008 (University of Kansas, University of Memphis, and Ohio State University). Six women's basketball programs won at least 28 games in the research sample year (University of Tennessee, Stanford University, University of Connecticut, University of North Carolina, Purdue University, and Bowling Green University). The women's program at Iona College and the men's program at California State University at Sacramento are at the bottom of the winning list with only two wins in the season ending in 2008. Winning might have a positive impact on six-year graduation rates if winning increases student engagement into campus life and serves as a motivator to maintain athletic eligibility via academic performance.

The final variable is a categorical variable separating women's basketball programs from men's basketball programs. The average graduation rate in the sample is 76.5% but a cursory look at the numbers provides evidence that women's programs perform at a significantly higher rate than the men's programs. Specifically, the average six-year graduation rate for men's basketball programs is 67.7% while the six-year graduation rate for women's basketball program is 85.4%.

RESULTS

Table 2 presents the estimated empirical relationship between the explanatory variables and six-year graduation rates of college basketball programs. The ordinary least squares (OLS) model explains over 54 percent of the variance in college basketball six-year graduation rates. A model with logarithmic transformations of the dependent variable was considered but was not substantially different from the parsimonious OLS model. The alternate specification raised the R-square to over 56 percent but did not fundamentally change the significance or relative magnitude of any of the independent variables. None of the independent variables in the model have a correlation higher than 0.6, suggesting that excessive multicollinearity is not a problem in the analysis. Nine of the eleven variables in the model are statistically significant.

Variable	Coefficient	t-statistic
Intercept	0.720009	13.26
APROFIT	1.181E-08	2.35*
PPROFIT	-1.719E-10	-0.04
STUDENTS	2.728E-07	2.06*
PUBLIC	-0.156036	-6.97*
FINSUPP	8.485E-09	2.24*
WFINSUP	-0.170689	-1.93*
RECRUIT	1.416E-07	3.59*
FRECRUIT	0.200062	1.99*
COACH	-1.507E-06	-1.32
WINS	0.004059	3.10*
FEMALE	0.138061	7.24*

Notes: R-square = .4862, F = 23.86, *p<.05, and n = 96.

The first two variables in the model are APROFIT and PPROFIT, which measure the impact of different measures of profitability on the graduation rates of college basketball teams, holding other variables constant. The APROFIT variable is positive and statistically significant. Clearly, a profitable athletic program has a positive and significant relationship with the graduation rates of college basketball program. Athletic programs that earn relatively high

profits tend to have more resources that can support the academic success of student athletes, such as tutors and other forms of individual instruction. The PPROFIT variable is negative but not statistically significant. The negative coefficient associated with basketball program profit is surprising given the positive coefficient associated with athletic program profit. One possible explanation for the negative impact of basketball profits on graduation rates might be that the goal of players on high-profile college teams that earn big profits is not to graduate but to facilitate a professional career. Most collegiate basketball players probably have some degree of professional aspirations but athletes playing for elite teams that are highly profitable have a more realistic aspiration. In addition, over half of the players drafted in the National Basketball Association (NBA) are usually underclassmen that did not complete degree requirements. It is also possible that some men's college basketball programs that earn high profits will view placement in the NBA as a more important goal than graduating athletes, a sentiment that has been echoed by University of Kentucky Coach John Calipari in recent years. Placement in the NBA gives a program a long-run recruiting and sustainability advantage. Programs can recruit top high school talent with the hook that the college basketball program is a factory that produces professional athletes earning millions in the NBA.

Both of the institutional variables are statistically significant. Size of the institution measured by number of undergraduate students (STUDENTS) is a positive and statistically significant determinant of six-year graduation rates of basketball programs. The economies of scale of the resource base at a large institution might help students with tools for academic success. Possible advantages at large institutions include additional tutor support, personal mentorship, and other student support services that help persistence and graduation rates. The PUBLIC variable has a negative coefficient that is highly significant. The regression coefficient indicates that public institutions have a six-year basketball graduation rate that is approximately 15.6% lower than private institutions. The admission standards at private institutions are often higher than standards at public institutions. The higher standards might hurt the ability of private institutions to attract athletes with marginal academic ability but should help attract athletes with greater academic ability. Private institutions with strong academic reputations like Duke University are able to attract elite talent (e.g., Danny Ferry, Christian Laettner, Bobby Hurley, Grant Hill, Elton Brand, Jay Williams, Shane Battier, Mike Dunleavy, Luol Deng, Shelden Williams, Kyrie Irving, and Austin Rivers are all Duke players selected within the first ten picks in an NBA draft) but admission to Duke requires demonstrated academic acumen that is not dismissed by athletic prowess. With the historical exception of Duke University (1991, 1992, 2001, and 2010), Georgetown (1984), and Marquette (1977), private institutions and their higher academic admission standards have fallen short of national championships in the last fifty years. Higher academic standards might limit recruiting opportunities for private institutions but appear to have a positive influence on the six-year graduation rates of basketball programs.

All four of the resource control variables employed in the empirical model are statistically significant. FINSUPP is the amount of financial aid support available to students at

an institution. Not surprisingly, the FINSUPP regression coefficient is positive and statistically significant. Institutions that can afford to offer more financial support have the resources to help students achieve graduation success. The variable WFINSUPP measures the percent of financial support in the athletic department allocated to female athletes. The empirical results verify the hypothesis that a higher allocation of financial support to female athletes has a negative impact on six-year graduation rates for college basketball programs. Consistent with the findings of Rishe (2003), the results imply that male athletes in prominent athletic programs like basketball need more relative support if there is a desire to close the gender graduation gap. Athletic programs with a relatively large recruiting budget (RECRUIT) appear to find more success with respect to graduating basketball players. The RECRUIT variable has a positive and statistically significant coefficient. Higher recruiting budgets offer programs the ability to attract individuals with both athletic and academic acumen. It is almost certain that winning is a primary goal for most college basketball programs but coaches and recruiters also prefer to run a program that graduates student athletes because higher graduation rates creates positive externalities with university administrators and can be a recruiting tool with parents. The variable FRECRUIT measures the percent of the recruiting budget in the athletic department allocated to female athletes. The FRECRUIT variable has a positive and statistically significant impact on six-year basketball graduation rates. A possible explanation is that an athletic program that is cognizant of Title IX issues and makes an aggressive effort to support women's athletics is an athletic program that is also going to push for relatively high six-year graduation rates for all athletic programs. Programs that spend relatively more recruiting female athletes might have goals that are more process, equity, and academic outcome driven than simply having a winning men's football or basketball team that is a cash cow.

The head coach pay (COACH) variable has a negative but statistically insignificant impact on six-year graduation rates of college basketball programs. Head coaches receive compensation to do a variety of things for an athletic program but the empirical results of this study clearly indicate graduating student athletes is not one of the responsibilities. In fact, graduating players has a negative impact on head coach compensation. College athletics is enormously popular in the United States, and there is evidence that its appeal is growing (Rees & Schnepel, 2009). Winning games and energizing the alumni base is probably a more important determinant of the pay of college coaches than graduating students, although it is important to note this inference is limited by the observation the model employs a proxy for head coach pay.

The next variable in the model investigates the impact of winning (WINS) basketball games on six-year football graduation rates. Winning programs are more likely to help student athletes remain academically eligible for competition, which indirectly helps student athletes make positive progress toward degree completion. Winning might also have a positive impact on student athlete engagement into academic life and this engagement can augment retention and graduation rates (Scott, Bailey & Kienzl, 2006). Evidence from this cohort provides statistical evidence that winning has a positive and significant impact on six-year basketball graduation rates.

The final variable model is a categorical variable controlling for gender. The results indicate that women's basketball programs have a significantly higher graduation rate than men's basketball teams. Holding other variable constant, the women's graduation rate is approximately 13.8% higher than the men's six-year college basketball graduation rate. Higher female graduation rates are part of a national trend. At public institutions, about 58 percent of females seeking a bachelor's degree graduated within 6 years, compared with 53 percent of males; at private nonprofit institutions, 67 percent of females graduated within 6 years, compared with 63 percent of males (U.S. Department of Education, National Center for Education Statistics, 2012). Hence, the average six-year graduation rate for men's basketball programs at 67.7% and women's basketball programs at 85.4% are both relatively high. That being said, the extremely high graduation rate for women's college basketball programs provides evidence of the positive impact participation in athletics can be for women as part of an effort to achieve the goal of earning an college degree.

CONCLUSION

This study investigates the determinants of six-year graduation rates for college basketball programs. The research sample consists of 434 (217 men's and 217 women's) college basketball programs during the years 2004-2010. Profitability of the overall athletic program, financial support the institution offers to college athletics, recruiting budget of the athletic program, size of the institution defined as number of undergraduate students, and percent of the recruiting budget allocated to female athletes are revealed to be positive and statistically significant determinants of college basketball six-year graduation rates. The positive and significant variables lead to an overall conclusion that financial resources via profits, financial support to students, resources for support services provided by large institutions, and recruiting budget are keys to successfully graduating college basketball players. Winning games and the female categorical variable are two other variables that have a positive and statistically significant impact on college basketball graduation rates. It is interesting to note that, holding other variable constant, the women's graduation rate is approximately 13.8% higher than the men's six-year college basketball graduation rate.

The empirical results indicate classification as a public institution and percent of the financial support allocated to female athletes at an institution have a negative and statistically significant impact on six-year graduation rates of basketball programs. The two negative and statistically significant variables provide some interesting possible interpretations. First, the six-year basketball graduation rate for public institutions is over 15% lower than the comparable graduation rate at private institutions. The selectivity and higher admission standards at private institutions are likely contributors to the differential. Second, increasing the percentage of financial support for women's athletics appears to have an adverse impact on six-year graduation rates. The extra financial support toward women's teams is likely to have a positive impact on

the female graduation rate but the result implies the effort diminishes the male basketball graduation rate.

Profitability of the basketball program and average head coaches pay are both negative but not statistically significant determinants of college basketball six-year graduation rates. The lack of significance in the program profitability variable provides anecdotal evidence supporting the hypothesis that college athletics for high profile teams and athletes may have a propensity to focus more on placement at the professional sports level than earning a college degree.

One avenue for future research is to see if the empirical results are consistent across other sports with both men's and women's teams. Track and field teams could serve as an ideal sport for a comparison to basketball. A second approach for future research is to investigate the determinants of six-year graduation rates of athletic programs taken together instead of focusing on specific sports. Capturing college football as part of an aggregate effort is an important financial driver for many athletic programs.

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